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Chair

Mr. James Bezan

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● (1105)

[*English*]

The Chair (Mr. James Bezan (Selkirk—Interlake, CPC)): Good morning, everyone. I call this meeting to order.

We're continuing with our study on readiness, pursuant to Standing Order 108(2).

Joining us today from the great University of Manitoba is Professor James Fergusson, who is the director of the Centre for Defence and Security Studies.

We welcome you, Professor, to the committee, and we're looking forward to your opening comments.

Dr. James Fergusson (Director, Centre for Defence and Security Studies, University of Manitoba): Thank you, and thank you for the invitation.

Maintaining readiness is always a difficult and daunting task, not least because of the uncertainty surrounding future operational deployments in respect of location, conflict environment, new military technologies, and mission requirements and objectives. It becomes even more difficult when the armed forces face significant budget cuts, as the Canadian Forces do today.

The forces confront two demands on their resources. The first is maintaining and sustaining their day-to-day activities or existing commitments with respect to capabilities, personnel, training, and education. These are non-discretionary in nature, and thus represent a relatively fixed demand on resources. Moreover, these commitments, at least today, are overwhelmingly in non-combat roles.

The second is to ensure readiness to meet largely unforeseeable or unpredictable future commitments. These are discretionary in two senses. First, the CF lack the capacity to prepare fully for all and any future contingencies. Decisions must be made on what type of contingency to prepare for. Second, resources are a function of availability, once fixed demands are met.

Finally, readiness for the unforeseeable future should direct one's attention to the worst-case scenario—future combat missions. Maintaining ready, combat-capable forces is the core objective. The transition of combat-capable forces to non-combat roles or missions is not always an easy one. However, the costs of being unprepared for combat are much higher than the costs of being unprepared for non-combat functions.

As a function of the first demand on the Canadian Forces, and the extent to which these demands may grow or shrink over time, readiness investments are the obvious target for budget reductions. An ambitious capital acquisition program of the recent past and today compounds this. Historically, defence decision-makers facing budget cuts have initially targeted personnel, because people represent the largest spending item in a budget and it is the means to protect capital, which is about future readiness. Capital is the second target because it is about future investments and it is the means to protect immediate readiness.

Cutting personnel reduces the number available for readiness, relative to existing commitments. A likely target in this regard is to reduce reserve personnel in full-time positions who have backfilled key slots, especially within the training and education establishment as it relates to Afghanistan. While their elimination may provide some savings and protect regular force readiness, unless their positions are eliminated, reserves would have to be replaced by regular forces personnel. Moreover, eliminating these positions entirely will undermine future readiness, as they are key in communicating lessons learned from the operations to the next generation of personnel.

There is also the possibility of delaying capital acquisitions to protect immediate readiness investment. Whether it's the F-35 or the shipbuilding program, there are potential added costs in seeking to extend the life of current equipment. Moreover, there is a need to take into account these acquisitions, which are vital to existing fixed commitments and to readiness.

Given these considerations, and in the absence of any clear indication that defence decision-makers will cut regular force levels or delay acquisitions, readiness, especially in training, is likely to suffer. Here the burden may again be placed on the reserves, with the hope that future deployments can be undertaken by regular forces, with time available to train reserves for sustainment and backfill purposes. Of course, this will vary between the services.

There are no reserves, for example, available for the CF-18 fleet. Indeed, the issue of readiness relative to the type of available resources varies between the services. For example, both the air force and the navy, as a function of flexible, multi-role platforms, are less vulnerable than the army to different combat environments, assuming that sufficient resources can be invested in training for all the roles. Regardless, there is no service-wide solution to readiness.

Nonetheless, the forces consider two fundamental alternatives to ensuring readiness. The first is to designate specific units for combat readiness, the JTF model of special forces, for example. These may be conceptualized as first responders to the unforeseen future mission.These units would be focused not only on combat training but also on ensuring interoperability with allies. Potentially, if deployed overseas, time would be bought for training replacement or sustainment forces, under the assumption that additional operation-specific funding would be provided by the government. The remaining Canadian Forces would essentially be devoted to meeting day-to-day commitments. At the same time, other units may specialize in specific non-combat roles.

The problem here is the creation of at least a two-tiered armed force—some units combat-capable, others not. In some cases, this already exists as a function of specialized tasks and platforms within the services. Nonetheless, a tiered armed force raises issues for morale, retention, and recruitment.

Alternatively, the CF can continue to rotate units on a regular basis for combat training and readiness purposes. While this assures some degree of readiness breadth across the forces, it provides limits on the depth of readiness.

There is also the option of eliminating existing capabilities and thereby reducing the types of combat the forces can undertake. This, of course, has significant political implications for governments. Capabilities alone should not determine political commitments. Moreover, the capital acquisition program over the last decade and into the future greatly limits what capabilities might be discarded. In this sense, the forces are trapped by past decisions. Lost capabilities are also very difficult to re-acquire if the future does not conform to expectations. Even so, a close evaluation of existing capabilities is needed.

In conclusion, readiness will suffer in the immediate wake of forthcoming budget cuts, but all is not bleak. The operational experience of the Canadian Forces over the past decade and more ensures that readiness can be managed, at least for the immediate future.

The forces possess extensive combat experience stemming most recently from Afghanistan and Libya. The key is the retention of personnel with this experience and the transmission of this experience through training and education to the next generation. As long as the immediate future conforms to these experiences in terms of future operational commitments, then readiness is clearly manageable.

The danger, however, is that future unexpected operational commitments will not conform to past experiences. The CF may be ready to fight the wrong war. The lesson here is the Canadian Forces, like most western armed forces, being unprepared for the dramatic shift from deterrent operations and peacekeeping in the Cold War to war fighting and peace support operations over the last two decades. Except for the reality that overseas operations will remain “come as you are” and that the spectrum of possible operations can be discerned or identified, no one can predict the specific types of operations and conflict or combat environments the CF may face.

As noted earlier, the CF cannot be ready for every and any contingency across the spectrum of operations. At best, ensuring basic combat skills and a balance between immediate readiness driven by past experiences and future readiness for unpredictable environments is essential. This is the real readiness challenge.

Thank you.

● (1110)

The Chair: Thank you, Professor. We appreciate those opening comments.

We're going to kick off our seven-minute rounds with Mr. Christopherson.

Mr. David Christopherson (Hamilton Centre, NDP): Thank you, Mr. Chair.

Thank you very much, Mr. Fergusson. That was a very thoughtful presentation.

I want to start where you ended, talking about future unpredictable challenges. One of our challenges has been getting the cart in front of the horse in terms of readiness. Readiness means so many different things to different people, and everyone who comes in has their own idea of that. But one of the things I think we're clearly coming to is that the readiness component of what you need to be ready for comes before you can determine whether you're ready to meet that. First of all, I'll ask if you agree with that.

Secondly, on future unpredictable challenges—of course this is the difficult part, because nobody can look with 100% clarity into the future—what are your thoughts on some of the areas where Defence should be planning, based on most likely outcomes, given current scenarios?

I'd like your thoughts on those two things to start, Professor.

Dr. James Fergusson: I agree. When I first drafted this, of the many drafts I went through, trying to get my head around all of the different ways you can cut at readiness, the question always came to me as, “Readiness for what? What do we want to be ready for?”

That has to be decided and defined. If you put it in the context of future environments, it becomes clearly complicated. That's why, in my view, one should look at not any attempt to specify specific combat environments or any military environments where armed forces may or can play a significant role, whether it's constabulary missions or combat missions, but rather to identify in the generic or the abstract what kinds of missions we are talking about. That leads me, as I mentioned in my presentation, to the emphasis on combat as the most extreme environment where the Canadian Forces may be deployed.

Then, of course, that relates to the second question. What are combat environments going to look like in the future? These are extremely difficult to predict. The general view, if you come from my field of academic study on this, is that we're looking at two opposite environments.

One is an environment of the continuation of the past two decades, with failed and failing states, internal conflicts, and civil wars—the events in Syria today, for example. All of the past experiences that began with Somalia and the collapse of the former republic of Yugoslavia will continue.

Here the forces, of course, look at this environment of insurgency/counter-insurgency, and some elements of the forces playing roles in the field at the same time in the realm of nation building. You look particularly at the experience of the Canadian Forces in Afghanistan—in which they were fighting a counter-insurgency operation, winning hearts and minds, which of course required different types of capabilities, and training forces—and the investments that went in, particularly here at home in preparing forces as they rotated overseas.

That's an environment in which, because we have a lot of experience, it's not difficult for Canada to continue. That's what I meant by the immediate future conforming to past experiences. If that's where we're headed—and I'm not convinced we are headed in that direction—then I think that's relatively manageable. You have that bulk of people, as long as you can retain them and have enough resources to keep them trained and to pass this on to the next generation of forces that are moving through the pipeline.

The problem, of course, is that when you look at the world we face, two things in particular come up.

One is—and I'm sure the committee has already heard this from other people—the growing attention to potential returns of great power conflicts, focused primarily on the growing American obsession with China. Great power conflicts are conflicts that have nuclear weapons directly in the background, which may lead to a return to issues we are more familiar with from the Cold War of deterrent-type forces, where attention will be moved away from failed and failing states. They'll still be there, as they were in the Cold War, but governments by and large ignored them or saw them through the lens of the Cold War rivalry. That type of environment is a different one for the Canadian Forces to be prepared for because they haven't been doing that for a long time. No one knows how that will play out.

Again, when you have limited resources, it's very hard to try to spread yourself thin to invest in trying to do both or all of them.

In the midst of all this—as we've seen very small outlines of in the case of Afghanistan in the ability, for example, of the Taliban to use social media and other aspects, which is a bit surprising given our assumptions about the nature of the Taliban and the nature of Afghan society and their experiences—is how these operations will become much more technologically complicated for the Canadian Forces, an insurgency/counter-insurgency operation of the future where everyone can imagine it to be. As we should have learned from Afghanistan, we can never imagine them.

You might ask me—and people did a decade or so ago—where the forces were going after Bosnia. I said we were going to Africa. Well, we haven't really gone there yet, but we might. We might go back to the Middle East. It's very hard to know.

It's in these environments that you have forces you're going to face, irregular forces but equipped with more and more sophisticated technologies, into the areas of cyber warfare and the ability to use off-the-shelf jamming equipment and spoofing equipment to undermine western technological experiences. So you have that mix as well, which requires not just a fundamental....

● (1115)

If you think of counter-insurgency traditionally as boots on the ground, patrolling, traditional types of counter-insurgency missions, into ones that would be much more complicated, how do you train for all of this? How do you train, particularly when you can't train for them all? You just can't. Even if there were no budget cuts, the forces couldn't train for all of it. We've never been able to.

That's where you get into the realm of what I'd call hard choices. In the history of the Canadian Forces, National Defence and governments—regardless of their stripe—have been reluctant to make choices and just let time figure itself out.

Mr. David Christopherson: I'm sorry, I'm going to interrupt. I have time for maybe one quick question.

Dr. James Fergusson: I'm sorry, I tend to wander on.

Mr. David Christopherson: No, that's great. I would have interrupted earlier if you weren't very relevant to the question and the issue.

I have one quick question. You made reference to the fact that we're all expecting budget cuts to Defence in the upcoming federal budget. What are your thoughts on the potential danger of cutting Defence in the absence of knowing what it is we want to be ready for?

The Chair: Dr. Fergusson, I would ask that you respond very briefly, since Mr. Christopherson's time has expired.

Dr. James Fergusson: The answer is that whether or not you cut Defence is not the issue here. Even if you don't, it doesn't mean you can have the resources and you will invest them in what's coming in the future.

I think the budget cuts issue is independent of the readiness, except in the sense that it will make it more difficult because of where the cuts will have to come.

The Chair: Thank you.

Mr. Opitz, you have the floor.

Mr. Ted Opitz (Etobicoke Centre, CPC): Thank you, Chair.

Welcome, Doctor. Thank you very much for being here today. I agree with a lot of what you're saying. It's wonderful.

I just want to talk about the common army training scenario, which I'm sure you're aware of. Three of us at the table have served in the past in combat arms—Madam Moore, Mr. Chisu, and I. The common army training scenario is one of those scenarios where we trained first of all for Afghanistan—mission-specific training—for the last 10 years.

That was geared towards a particular theatre of operation. But the common army training scenario when I was at LFCA as a staff officer was used quite a bit as a scenario that could fit almost anywhere or anything. You could tailor those training objectives within that, which would at least try to accommodate being ready for almost anything that comes up, whether it's nation building, a peacekeeping exercise, or a war fighting exercise.

I'd like you to comment on that in a minute.

You also talked about readiness being a component of education, and being an educator you're familiar, of course, with the Canadian Forces College and the Canadian Defence Academy and so forth.

What are your comments on the common army training scenario in the field and military education? This body has been to CFC and other places to see that.

Could you comment on those?

● (1120)

Dr. James Fergusson: I don't know a great deal about the specifics of combat army training. My expertise is more in the aerospace world in that sense.

To see the transferability of a training scenario that centres upon counter-insurgence operations from the Afghan experience, on the assumption that then this is transferable to other potential future combat environments, is dangerous, because I'm not convinced. For one thing, the lesson of military operations, historical military operations, not just for the forces but for most western armies, is this sense that we can train with an understanding based upon past experiences.

I will give you the most prominent example. From the end of World War II until the end of the Cold War, allied armies were trained to expect a repeat of World War II in a nuclear environment. There were a lot of people, a lot of academics, who argued very strongly that given their very structure, allied armies would not be able to manage this in a nuclear environment, and that it would require a dramatic restructuring of the forces, which never took place.

It cannot help because of the limited duration of training you get.... In my view, with experience as a teacher, if you will, an educator, the students will simply integrate the dominant model and they will not be very good at trying to understand how this will spread out, at the difference between, for example, operating in a combat environment of a neutral population, to a pro population, to a hostile population, to one with no population—I mean, historically people flee armies. And you just can't do it. The danger is we've been trapped in past experiences. That's what I would concern myself with.

As regards the question of education, I think the education side is the most vulnerable right now because it's really about the future, educating the enlisted personnel, but most importantly educating the officers, the young officers, who in five to ten years will increasingly be taking up command positions. There's a tendency that will exist to try to squeeze that, because this has always been a bit problematic with the forces, which values operational experience over educational experience, and I don't think that has greatly changed in terms of just the way militaries think about themselves. The need to maintain, do everything they can, to keep those forces immediately ready for the unexpected, based upon past experience, will lead them to push or to squeeze these down the road. That may work for a short period of time, and you might hope that things will get better and we'll be able to restore these, but it's losing those capabilities, or those being seriously damaged in the immediate future, like losing a capability, a fighter jet capability—they're hard to restore and they take time and investment. I think the forces have to be very careful about where they try to look because, as I said, I think that's the most vulnerable.

Mr. Ted Opitz: I would say, just on the common army training scenario, that I think we've learned in spades not to fight the last war. The value of this particular program is it does allow planners to look ahead and add a new dimension of things that are trending for the future. So that is fantastic.

Dr. James Fergusson: Technology helps.

Mr. Ted Opitz: Technology helps.

Dr. James Fergusson: Simulation—all this helps, but it's expensive.

Mr. Ted Opitz: Yes. I would say that at CFC there is a recognition that operational experiences are hugely valuable, of course, but it's the lessons learned, perpetuated through, of course, your allies—because it's not just Canadians on these courses, it's our allies as well—that helps move that.

You also talked about procurement and maintaining an equipment base to be able to prepare for any future operations. What's your view on maintaining our procurement, our level of equipment, and procurement of new equipment, for future operations?

● (1125)

Dr. James Fergusson: It depends on what new equipment you're talking about. When we talk about procurement, generally the attention goes to big platforms and big purchases, and that becomes the centrepiece. For most of us, and in the academic community it's certainly true, it's those little elements of procurement, the smaller-package items of electronic systems, of new computer programs, software, etc., which I don't think anyone has a good handle on, and what potentially can be pushed off or delayed in that area.

With regard to large-scale procurement programs, I don't think there's much that can be done to them right now. These will proceed, and should proceed, in my view, perhaps being delayed or pushed to the right a little bit, pending predictions of how the economy is going to go. But I don't think there could be much savings found there.

Mr. Ted Opitz: You make a good point on some of the smaller items as well, and I think that is noted, sir—

Dr. James Fergusson: Pardon me. If I may interrupt, that's one of the dangers, where you have the flagships of the F-35 and the new destroyers or the patrol ships, which everyone is aware about because they get such publicity, but no one pays attention to these little things. They then become vulnerable, for a variety of reasons, as the target: "Well, that's what we'll go after." But in a modern military, it's those smaller systems, the subsystems that go into the platforms, those key electronic add-ons, modernizations, that are really important to keep abreast of, particularly with our allies.

Mr. Ted Opitz: Well, key technology is a force multiplier.

I probably only have a second left, but you also mentioned rotating high-readiness brigades. You talked about how rotating these brigades may affect the depth of readiness.

Could you elaborate on what you meant by that?

The Chair: Mr. Opitz, your time has expired, so, Dr. Fergusson, I'm going to ask for a brief reply.

Dr. James Fergusson: Basically, what I mean is that the more units you try to keep ready and extend, the more you reduce the amount of training time, depending on the overall time, that you can devote to all of them. What you end up developing over time is a force with an army, navy, air force, or joint whatever you call it, that has a lot of people who have some experience and knowledge and readiness preparedness, but the extent of the depth in it, the ability to exploit the combat training systems and all the scenarios, you just don't have time to integrate all that. The depth isn't there, but the breadth is there.

The Chair: Thank you.

Moving on, we have Mr. McKay.

Hon. John McKay (Scarborough—Guildwood, Lib.): Thank you, Chair.

And thank you, Professor Fergusson.

I want to bring us down from 35,000 feet to maybe only 10,000 and talk about your ideas in the context of the F-35. You wrote a pretty thoughtful article here in the fall about the F-35s. I just thought I'd reflect on your article, but also reflect on the testimony that we've had here over the last few months.

I don't think there's much argument around the table that we need to replace our jet capability. I don't think we're walking away from that. Once you lose it, it's gone forever. We agree with that. I don't know whether you're plagiarizing Dyer, who says it's going to be a "come as you are" war, but it is. That's likely true: whatever you have on the shelf is going to be what you have, and that's it, and there are no replacement possibilities.

Putting aside all of the technology delays and difficulties that Lockheed Martin is having, and all of this stuff about who's in, who's out, and how much this thing is going to cost, and trying to do it from a military and strategic analysis—again, I don't think there's much argument the jets need to be replaced. Given the overall proposition that whatever conflict we're going to be in, whether it's a continental conflict or an international conflict, we're likely going to be part of a coalition; that's just going to be a given. Certainly in an air conflict, the likely lead is going to be the United States. That's just going to be a given. So then the question becomes, if that's true, what does stealth bring to the dance?

We had a witness here who said stealth kills non-stealth each and every time, and produced statistics to that effect. On the other hand, other witnesses have said, well, yes, but we're never first in anyway; we are part of the follow-up. The government has basically staked itself to this F-35—and in some respects, I'd say, even hoisted itself on its own petard—where the strategic value of stealth, putting aside the concept of whether it's F-35 or something else, is challengeable, shall we say.

I'd be interested in your thoughts about what stealth brings to the dance that nothing else can possibly bring. Are there other alternatives that, as one British general has put it, will make do for the purposes of future conflict?

● (1130)

Dr. James Fergusson: That gets into the highly technical issues. The point you're making we can take specifically from the Libyan experience, where, by and large, before the NATO forces moved in, the U.S., from what's in the public domain, apparently had done most of the initial work to degrade enemy air defence systems. The United States have certain capabilities which none of the other allies have, not just in terms of stealth platforms, but in supporting technologies and systems, which have enabled them in repeated conflicts to take out and destroy relatively advanced—not that the Libyan one was—air defence systems.

Hon. John McKay: Did they use any stealth capability? I thought they parked their F-22s for that conflict.

Dr. James Fergusson: They don't need to use the F-22.

Hon. John McKay: I know.

Dr. James Fergusson: They have a variety of attributes to use.

What does stealth bring to the table? I guess the question is for the defence of air crews and very expensive platforms as lesser states acquire more and more sophisticated air defences. They're not going to stand still. The Irans of the world aren't standing still to see what will happen to them militarily if something goes wrong. Russia and China are certainly moving to try to deal with and develop more sophisticated air defence systems, which will enable them to defeat American systems and not give up air superiority so quickly.

Stealth provides a basic technology or hedge against the unknown future. It's a mature technology now, at least for the United States and for the F-35. I would turn the question back to you. Why wouldn't we want the next generation of fighters, which is going to last 30, 40 years, to have the best technology we can put on them right now, notwithstanding the question of what other fighters are out there?

Hon. John McKay: The argument has been that if you don't buy stealth, you're in effect creating flying coffins.

Dr. James Fergusson: Potentially.

Hon. John McKay: Yes, and it's a bit of a dramatic way to say it, but on the other hand, you don't know the stealth is going to be that much further ahead. By the time these planes are delivered, there may be an antidote to stealth, which makes the additional cost quite useless.

Dr. James Fergusson: That's possible. One of the dangers, one of the big problems that all armed forces, including the United States, face today is the pace of technological development. How do you make decisions? We gambled in the past that the technological developments' span was 10, 20, 30 years. If you look back at the history of the evolution of fighter platforms since World War II, you've watched it shrink from 20 years of new platforms to technology shrinking and the ability then to add on a modular plug in new technologies.

There's no safe answer to this. There is no clear answer, but there are other reasons besides the stealth issue involved here as to why the F-35 is the only option for Canada.

Hon. John McKay: I understand the argument. I'm not sure I agree with it, but I understand it.

Let me pivot onto another question, which has also come up here, and that is again in the context of coalitions, in the context of literally the pivoting of the United States toward the Pacific away from the Atlantic and necessarily our pivot with them. I don't think they phoned us up and asked us what we think. This is what they're doing and we're coming along. So there's going to be a division of tasks. What would your advice be to the Canadian navy in particular, which will be the main force with respect to this pivot, with respect to tasks that it should assume in the overall participation in the Pacific pivot?

● (1135)

Dr. James Fergusson: To continue what they're doing right now, which is fundamentally being able to integrate effectively into U.S. carrier task forces. That is where we should continue our emphasis.

Hon. John McKay: Are there strategic points where you think they should pick up—say the Arctic or something of that nature—because they're not going to do anything in the Strait of Malacca or whatever?

Dr. James Fergusson: We lack the capacity. If you're talking about taking the lead in the Arctic, or releasing U.S. forces from the Atlantic—we'll take over the Atlantic while you concentrate naval forces in the Pacific—we don't have the capacity to do that, period. This gets to a bigger issue, which is about the potential of the Canadian Forces to be leaders. Sorry, we're not.

Hon. John McKay: Yes, we're going to be part of a coalition, regardless.

Dr. James Fergusson: Right.

Hon. John McKay: Thank you.

The Chair: Thank you.

We're now going to start our five-minute rounds.

Mr. Chisu, you can kick us off, please.

Mr. Corneliu Chisu (Pickering—Scarborough East, CPC): Thank you very much, Mr. Chairman.

Thank you very much for your presentation. I liked it very much. You speak about the experiences from Afghanistan and the lessons learned from Afghanistan and from other areas of conflict.

If you are speaking about Afghanistan, you know that we have had a precedent in Afghanistan with a counter-insurgency operation. We were not directly involved, but our neighbour to the south was involved in the Vietnam War. That was 30 or so years ago. There were a lot of lessons learned from that kind of conflict that also apply in this.

But I am going to be concentrating on the threats. What threats do you see Canada facing, especially in the Arctic?

Of the Arctic nations, we are the only nation that owns the Northwest Passage. There is a tendency for the Northwest Passage to be an international freeway through our own territory, and I see this as a very realistic threat. If we are speaking about an Atlantic fleet or a Pacific fleet.... But this is in our own territory, and if it is.... We have seen nations such as Panama, with the Panama Canal, and Egypt, with the Suez Canal, and all the other stuff in international territories, and I don't want to see Canada divided by an international free waterway.

What do you think we should do to avoid these things? There is a tendency toward that, and, personally, I perceive this as a threat to Canada.

Dr. James Fergusson: Well, my simple view on the Arctic is that it's not a military threat to Canada whatsoever. The thinking that we need to build up armed combat forces to be able to prosecute some sort of naval campaign in the Arctic, with supporting land forces, has a probability of near zero.

For reasons related to my understanding of the climate changes that are going on, it still will be a very harsh environment. You have to look at what the strategic issues there are really going to be about.

There is a security question up there for Canada, one of controlling and maintaining pollution standards and our territorial integrity relative to shipping transportation. We need to do something, and the Canadian Forces can play a role in that, but in terms of devoting specific military resources and developing capabilities to deal with the Arctic, I think that's a very grave mistake that we're making.

As to the threats to Canada, the military threats to Canada, those threats to Canada are almost exclusively in the aerospace world. My view has always been that this is where the emphasis needs to be. If you're looking very narrowly at the threats to the nation per se, in military terms, it's aerospace.

Mr. Corneliu Chisu: How are you looking at this, at having an international waterway in your own territory? That was already an explanation.... It is a fact that American submarines and American icebreakers went through the Northwest Passage. So I think this is an important issue, and not only for security; it is our national integrity.

Dr. James Fergusson: There are a lot of nations around the world that live beside international straits and have been able to manage their straits issues. Canada has certain sets of rights that stem from it being an international strait transiting through, roughly, internal waters: legal rights to enforce certain elements of its jurisdiction or sovereignty up there.

I do not see that this is going to be an area where you're going to have significant transit of armed vessels. At least, the right of innocent passage is not a problem for us, and it's not a problem for any states in this area. On the issue of submarines, we're really talking about the question of the extent to which the Russians or the Chinese might replicate the Soviet strategic nuclear policy of trying to "bastion" their SSBNs, their ballistic missile submarines, in the Arctic, and where they would put them.

If the ice is shrinking, and if the reports are correct, probably that strategy for the Russians or the Chinese will become very problematic for them. I'm not sure why we should spent a lot of money, beyond perhaps the surveillance systems that are being developed just to know what's going on. But to invest significant amounts of money to try to counter a potential submarine problem up there...? To what end? What are we going to do with it? What are the scenarios we're trying to think of? I think that's a very misplaced investment.

● (1140)

Mr. Corneliu Chisu: So you don't think we should have a presence in our Arctic...?

Dr. James Fergusson: We have a presence—

Mr. Corneliu Chisu: Because if you are not there, somebody else will be.

Dr. James Fergusson: We have a presence, and we are developing surveillance capabilities.

The Chair: Thank you.

[*Translation*]

Ms. Moore, you have five minutes.

Ms. Christine Moore (Abitibi—Témiscamingue, NDP): I read what you published. You explain that choosing a fighter jet is a policy and strategic decision. Choosing a latest generation high performance aircraft, for example, makes it possible to make policy decisions based on what we want to do rather than on our limits. It is really all about capabilities. In the case of the F-35s, there is also the issue of the associated cost overruns.

When does this investment designed to give us capabilities stop being advantageous for the country, for example, if it interferes with something else and compromises other things, from the budgetary perspective?

[*English*]

Dr. James Fergusson: It's a very good question, and one that almost has no answer. You're talking about opportunity costs. What is lost by continuing to invest in this if prices rise on this relative to existing alternatives and capabilities that different platforms provide you, relative to political and strategic considerations, and relative to the economic, industrial, and technology considerations that are all involved here?

I don't think anyone knows. This is one of the first times Canada has ever gone down the development path. Historically, Canadian investments for new platforms have largely been based on the principle that we won't buy them until they're mature and someone else has them flying. That provides some degree of guarantee of relative security about costs and capability. There are a lot of examples where we started down the path and then pulled out of it early on.

On this model of the JSF or F-35, the consortium we bought into early on looked like it was going to play out then. Unfortunately, the future never fits our past, and it should have been recognized as a gamble. But once you start to add political, strategic, and other considerations, you essentially get trapped and can't escape.

[*Translation*]

Ms. Christine Moore: All right.

If, regardless of how we consider the budget, we simply do not have the financial capability to purchase 65 F-35 aircraft, would it be preferable to buy 65 good fighter jets other than the F-35s, or to buy fewer F-35s? In other words, from a strategic perspective, would it be better to buy 35 F-35 aircraft, or 65 other fighter jets?

● (1145)

[*English*]

Dr. James Fergusson: It's probably better to buy fewer F-35s. We've seen the allies who are involved in the program all starting to cut back their buys for budgetary reasons. But every time you cut one aircraft, the distribution of per unit cost will go up for everyone. The actual amount of savings you're going to accrue by reducing it is questionable down the road.

Why would anyone be surprised if the costs of any major military development program run over? They always do. No matter what you do, it will happen. It's very predictable. The question is how much and to what extent it gets to be too much. But strategically there is no other alternative for us.

You can look economically at the question of the alternatives. If Canada still wants to have a significant role in this strategic world, the aerospace world, it has no alternative but this platform. It cannot go down to a Super Hornet. It cannot go down to a SAAB Gripen. It can't go down to old technology Eurofighters or Rafaels. We're not going to buy Russian. We're not going to buy Chinese, of course. This is it. If we don't want to do this any more—and that's a political decision—everything in terms of working in coalitions with our allies will disappear, because this is the way our allies are going.

[*Translation*]

The Chair: Thank you very much.

[*English*]

Mr. Norlock, you have the floor.

Mr. Rick Norlock (Northumberland—Quinte West, CPC): Thank you very much, and through you, Mr. Chair, to our witness, thank you for appearing today.

I'd like to deal with something that you said you felt you were an expert on, and that's the aerospace world.

Dr. Fergusson, in June of 2007, in a report titled *Canada, National Security and Outer Space*, which you prepared for the Canadian Defence and Foreign Affairs Institute, you wrote, and I quote:

> Space has been a national security issue for Canada for fifty years, but this matter's complexity and critical importance has never been greater than they are now.

I have two questions, maybe three, but two principal ones. What advancements have been made in the past five years in terms of the Department of National Defence and outer space? As a follow-up to that question regarding national security in outer space, what current threats does Canada face from outer space, and are there any weapons currently deployed on orbit that could attack Canada without us having advanced knowledge or threat?

Dr. James Fergusson: Thank you for that question. I know I go on. Academics, you should realize, always yak too long.

Mr. Rick Norlock: Well, I have five minutes.

Dr. James Fergusson: Okay. I'll be brief about the advancements. National Defence, after a 20-year very slow and torturous process, has made great advances in engaging Canada and National Defence in outer space. There's Project Polar Epsilon and the ability to receive the current RADARSAT data, analyze it, and spread it as needed, and what it will be able to do, once the RADARSAT constellation is expanded to a global constellation, will have great overseas value for the Canadian Forces and our allies. There's the development or access into U.S. secure, advance high-frequency communications, and there's the development of—I can't remember the name of the project off the top of my head—a system for ground forces to have space awareness, which will affect their operations. All of those things have been major steps forward.

My concern is whether they will continue down the path.

What are the current threats from outer space? To anyone's knowledge, there are no weapons deployed on orbit in outer space. We've seen recently, over the past several years, increasing concerns about Chinese anti-satellite capabilities, but let me emphasize where that point partially comes from. Any satellite on orbit in outer space, orbiting over Canada, whether in a polar orbit or some other orbit around the earth, under direction and proper guidance, can be dropped on anything you want. You can drop it on a city if you have the sophisticated guidance systems, and a chunk of a satellite coming down at rapid speed onto a city is a weapon that can be used.

We have no idea how countries like China, Russia, or Iran, which has now started to enter.... That's one of the major things that has changed over the past five years, the number of nations that are now entering...not just by placing satellites in orbit, but by developing launch capabilities. Once you get in there, you have significant strategic problems. If I had more time, I could go into the issues there.

So we don't know, but as far as evidence tells us right now in the public domain, no one has publicly said they have deployed a dedicated weapon on orbit.

● (1150)

Mr. Rick Norlock: So if you're a rogue state—we won't mention which one, but you mentioned Iran, and we do know that what terrorists like to do is demoralize and destabilize—you could easily demoralize and destabilize, because we know that there are countries who will provide a platform to get your satellite up into space, and they don't particularly care who provides that satellite or that piece of equipment.

Are you saying that satellites could potentially be used by rogue nations in a terrorist type of scenario to destabilize and terrorize?

Dr. James Fergusson: Theoretically, yes.

One of the major American concerns in the early 1960s after the launch of Sputnik was that the Soviet Union would deploy nuclear weapons on orbit and the United States would not know, and they would be able to strike at American targets in less than a minute with no advance warning whatsoever. There was a reason why the Americans and the Soviet Union didn't go down that path, for strategic stability purposes.

Today, that can happen. Theoretically, that can happen. Its probability is low right now, but we have to look down the road to see, potentially, how they will think. We never thought anyone would fly an airplane into the World Trade Center. No one thinks someone might drop a satellite onto a city.

Mr. Rick Norlock: What kind of damage could that cause? That would be the next logical question.

Dr. James Fergusson: I can't answer that question.

Mr. Rick Norlock: If it's insignificant, then why worry about it?

Dr. James Fergusson: In a terrorist world, it's not so much the damage as the symbolic impact of the event.

Mr. Rick Norlock: So it's destabilization and demoralization.

The Chair: Thank you. Time has expired.

Mr. Kellway, it's your turn.

Mr. Matthew Kellway (Beaches—East York, NDP): Thank you very much, Mr. Chair. Through you, Professor Fergusson, thanks for coming today.

You described dealing with the unpredictable as the real readiness challenge. I guess Mr. Norlock's question and your response just heightened those kinds of concerns, but I'm wondering if at least part of the solution is policy and whether policy is helpful in determining this issue of readiness, i.e., in assessing whether you're ready but also in establishing readiness. Do you have any thoughts on that?

Dr. James Fergusson: You're getting into the world of "what do we understand policy to be?" By and large, policy, at least public policy—that which is communicated to the public or that which I get to look at—is generally drafted in a relatively vague and ambiguous enough manner to be able to cover all potential contingencies and allow for activities to go on without specifying what they're going to be.

I think what you're really talking about is not the policy world, but, in the military world, the doctrine world, the development of specific doctrines. For the military, of course, doctrine is like the bible: how to do things. We have a long degree of experience of doctrinal development and doctrinal advancements and changes over time, largely, unfortunately, taking place after the fact, after we've entered into a conflict and found that existing doctrine has not worked.

Mr. Matthew Kellway: Let me suggest to you that it's not doctrine that I'm talking about. We've had a lot of military folks here talking about doctrine in this context of readiness, and I think it has limited ability to help us, frankly, with this study.

David Bercuson was here the other day, as you no doubt know, and he mentioned this issue of policy or what he called a set of principles. I guess what I'm asking for is a very clear understanding of what our national interests are for military purposes in terms that others have talked about. How far does Canada project its borders, for example?

One of the troubling things, I think, is that in a lot of the conversations we end up in on this issue, we slip beyond defence broadly into discussions about a kind of economically integrated world. We look at the world as being entirely integrated in terms of national security issues, and therefore we essentially need to project our borders right around the world, which doesn't end up helping us. It gets us back into the trap or challenge you talked about, that we then have to be ready for the unpredictable.

Let me get a comment on this briefly. To me, the issue seems to be that we need a very clear statement about what our national interests are from a military perspective or a foreign affairs perspective, and it's only on that basis that we can intelligibly discuss readiness.

● (1155)

Dr. James Fergusson: That's a point I've heard a lot from the military—that they wish they had more policy guidance. The problem is, you can't get any more policy guidance. The fundamental principles of Canadian defence policy have been in place since the end of World War II—the defence of Canada, the defence of North America in conjunction with the United States, and contributions to international peace and security. As to the specific missions, consider the Canada First defence strategy, the 1994 white paper, and "Challenge and Commitment" in 1987. You can go back to all the white papers you want to look at this. If you look in detail at them, what are the missions of the Canadian Forces? With minor changes, they haven't changed at all.

Translating these missions into specific guidance is politically problematic. One of the lessons was the 1987 white paper "Challenge and Commitment". The government specified how it was going to translate the missions—here's the guidance, this is what our forces are going to do. But in two years, the economy went down the toilet, the budget went out the window, and the challenge and commitment, despite what National Defence officials said, was thrown out the door. There was a lesson learned by government and policy drafters: you just can't do that; it's politically problematic because the future is unseen.

I think you're right. The problem is, how do you translate general policy guidance, our national interests, which are not apt to vary in my lifetime, into specific guidance for military development and military doctrine? That's always ended up as something for the military to decide. I don't see any change in that. I don't think you will get very far by going down that path.

The Chair: Thank you.

Mr. Strahl.

Mr. Mark Strahl (Chilliwack—Fraser Canyon, CPC): Thank you, Mr. Chair.

I have to say, after my controversial weather report from British Columbia earlier this week, there was wet snow there yesterday, so everyone can feel better.

Voices: Oh, oh!

Mr. Mark Strahl: I know, I know. I needed to eat some crow there. I apologize.

A voice: Pass the Kleenex.

Mr. Mark Strahl: I know you said your expertise is in aerospace, but I wanted to talk a bit about the navy. I come from British Columbia, and the new focus is on Asia-Pacific. We have Halifax-class modernization for our frigates. We have signed contracts and are in the process of building new destroyers and supply ships. I'm just wondering, given your comments on conventional warfare, if those are good investments, strategically speaking. Are we missing something there? Given the various threats you believe Canada may face, do we still need to have that strong, conventional naval force in Asia-Pacific?

Dr. James Fergusson: You seem to be asking if the current way we distribute the fleet between the west and the east should remain in place. The question, as you suggest, has to be viewed in light of the rising concerns about the Asia-Pacific as the dominant cockpit of future rivalry and competition and conflict. The current system goes back to the Cold War. The fleet was based in the Atlantic, and there was almost nothing in the Pacific. But in this world we're going into, the threats are going to be in the Pacific, and the fleet should shift over there. There should be less concentration in the Atlantic.

Do we need to modernize the conventional forces of the Canadian navy? Yes, we do. They need to be replaced because we are not going to be doing World War II-style escorting of convoys. That type of war is part of history now. I think some of my colleagues need to realize that. As for our presence there, the need to commit advance forces and integrate and be interoperable with the advanced navies of the world, the U.S. navy in particular, drives us down that path. That's why I think it's still a very important investment for us.

● (1200)

Mr. Mark Strahl: I know in response to Mr. Chisu we alluded to the submarine program. We've heard that this is a force multiplier as well, not in terms of, perhaps, subnaval conflict, but more in terms of surveillance or the ability to project our forces in places where they can't be seen by satellite, etc.

Do I get a sense you may have some further comments on that? We've heard from different folks in this study. Some say they are a waste of resources; others say they're essential in a modern navy to have that capability. Can we just have your thoughts on that?

Dr. James Fergusson: Very quickly, having submarines is a capability where we have been trapped by a bad decision made long ago. We've invested millions and millions of dollars with little to zero return, on the basis of a World War II image being repeated, on the basis of, “Well, look, everyone else has submarines, so we need them as well”, on the basis of other factors. They were cheap. I could go over it at length.

This relates to the F-35 decision, a question that was asked to me, and I think there's an important linkage here. When do you cut and run? We've been trapped by all the past investment in this that we really can't escape from it. Let's hope and pray that in fact this operational capability will be useful and valuable to us down the road.

We'll be operational, first of all—truly operational—and valuable to a Canadian strategic interest down the road.

My fear is that in fact we have been trapped. If you were to ask me, the arguments made for Canada and submarines are more driven by naval images than they are by really strategic requirements relative to available resources.

I am not convinced, for surveillance reasons, they're of any use to us. I'm not convinced we're going to be sending our conventional submarines to sneak around the coast of China or Southeast Asia—to look at what, to do what? I'm not convinced about using submarines to look at fishing trawlers and take their picture—and, what, bring them back to court? We're not able or willing, and it's strategically dangerous to try to develop an air-independent propulsion technology for submarines, to stick them in the Arctic and play cat and mouse with the strategic fleets of the United States, Russia, and, in the future, China. I think that's problematic for us. We have to think that through.

On the value of submarines in the surveillance of our territory, I think it can be done with lots of other more cost-effective technologies, but I don't think we can escape from it.

The Chair: Thank you. Your time has expired.

[*Translation*]

Mr. Brahmi, you have the floor.

Mr. Tarik Brahmi (Saint-Jean, NDP): Thank you, Mr. Chairman.

I find Professor Fergusson's comment that the F-35 is the only option for us to choose today very interesting. I would like to ask him a hypothetical question.

If we had to reduce the current fleet to some 30 or 40 aircraft, what would we have to give up to focus these 30 or 40 aircraft on something more important, in the end?

● (1205)

[*English*]

Dr. James Fergusson: I always get mystified by the numbers game. I grew up in the nuclear age when how much was enough for nuclear strike capabilities was the obsession of the academic community and the strategic world at large. Now we get to the numbers.

I think part of it depends upon this. How much is enough? Can we do with 30 or 40? What are we going to lose? In terms of the fundamental role in the defence of Canada of an advanced multi-role fighter like the F-35, given what I can discern about the number we deploy on a daily basis or leave on standby on a daily basis for NORAD and air sovereignty missions, reducing that by 30 to 40 is not going to affect anything whatsoever in order to meet those missions. The question becomes, what, then, in terms of 30 to 35...?

I think the bigger question this committee might want to ask is, why 60 or 65? Where does that number come from? I don't have the answer, because every time I've asked it, it's classified.

[*Translation*]

Mr. Tarik Brahmi: I think there is also the issue of the last delivery of F-18s. There were over 100 aircraft. That was some 30 years ago, and we are hearing that we could do the same thing today with some 30 aircraft. That is, in fact, the issue.

[*English*]

Dr. James Fergusson: If I remember correctly, the number of F-18s we originally purchased was 140. That number came out of a calculation related to an existing threat to Canada, which was a Soviet bomber air-launched cruise threat. You then had to calculate the number you might need also in terms of our foreign commitment to NATO and what we could deploy and then sustain out there, if we were in a lengthy campaign rotating those forces.

One also has to ask what the capability of an F-35 is relative to the capability of an F-18, and the argument is that the capability is much greater and you can do with fewer. But I don't see that there is any shrinkage in the roles we can play by cutting the F-35 by the 30 or 40.

[*Translation*]

Mr. Tarik Brahmi: Based on your logic, we would have to count to a greater extent on our NATO allies. We could do the same thing with fewer aircraft, if our NATO allies stepped up their participation. That might be a possibility.

[*English*]

Dr. James Fergusson: It certainly is a possibility. Except for the United States, among the allies no small nation today can afford, because of the nature of military technologies, to maintain a capacity to act independently. It's just too expensive for all of us. So it is all about not just us, but about our cooperating with our allies and integrating more fully with them.

[*Translation*]

Mr. Tarik Brahmi: Since I have a minute left, I would like to turn to the submarines.

According to your previous statements, you do not think we need Victoria-class submarines.

Do you think Canada could choose to not have submarines? If we look at the example of Great Britain, which does not have aircraft carriers, could Canada live without submarines?

[*English*]

Dr. James Fergusson: The simple answer is yes. It's an easy answer: we can live without submarines.

We may still be playing—and it's one of the important roles in the future, if we're talking about conflicts overseas and forward deployment of forces.... If we take the Chinese naval denial strategy, which most observers think is where China is going in terms of their capabilities, we'll potentially have to deal with submarines. But you don't need a submarine to deal with a submarine. There are advanced and ever more sophisticated technologies, remotely controlled technologies, that enable one to deal with the submarine threat.

[*Translation*]

The Chair: Thank you very much.

[*English*]

Madam Gallant, it's your turn.

Mrs. Cheryl Gallant (Renfrew—Nipissing—Pembroke, CPC): Thank you, Mr. Chairman.

Dr. Fergusson, you said that even if no budget cuts were anticipated, we still could not possibly train everyone to know what they should know in order to counter cyber warfare. To what extent should we be relying on private sector IT specialists for readiness and working through an actual attack?

● (1210)

Dr. James Fergusson: The first part of my answer is that National Defence—the government—has no choice but to work with the private sector, because most of the key assets are privately owned.

But the more important question is this. Outside of the requirement for the forces to be prepared to deal with cyber attacks upon our military capabilities, particularly in the field or at home—and I make a point of saying our military capability—and potentially the need to develop counters and also offensive cyber capabilities ourselves for overseas military operations, such as jamming, computer viruses, and similar things, I don't think in terms of the national issues involved here that cyber threats, particularly to our national critical infrastructure, are a job for the Department of National Defence.

I think the problem here is that Defence, in part because it's dealing with the cyber question for its own systems, has become the default actor to take the lead on this. There's a serious need by any government, in my view, to take a look at the particular place where this really belongs. In my view, it belongs in Public Safety, and legislation is required, as much as I understand the legislation, to enable them to take a greater functional lead role. The home of the RCMP and of CSIS is where those issues really lie.

Mrs. Cheryl Gallant: As you mentioned, we have interdepartmental overlap with respect to cyber threats. Do you see any opportunities for inter-agency cooperation or task sharing that are not already in place? You say we need it, but from your viewpoint, do you see gaps between what we could be doing and what we're already doing?

Dr. James Fergusson: I really can't answer the question, because I'm not sure exactly where the gaps are, but there are always problems in overlap. There are always problems in information sharing between organizations. This is something, as I suggested, that National Defence really needs to pull away from. The government needs to put the resources into a central agency that is going to be responsible for Canada's nation-wide critical infrastructure and negotiate with the provinces—doing more than simply coordinate and facilitate, but actually taking much more a lead regulatory role in doing this.

Mrs. Cheryl Gallant: Do you mean putting in place something more along the lines of the Office of Critical Infrastructure that we used to have?

Dr. James Fergusson: Exactly. Part of the reason Defence got this is, if you go back to Y2K, that they were the unfortunate guys: no one wanted it, and they got it.

Mrs. Cheryl Gallant: Again—and you may have already partially gone into this—in terms of cyber warfare, in what ways could we be cooperating in task sharing or info sharing with our allies that we're not already doing?

Dr. James Fergusson: Now you're into the highly classified world of intelligence sharing, and I would just be guessing.

But one thing that is missing—this is a side note to this cyber war thing and the cyber threat, and I'm not trying to downplay the problem here—is that we have numerous examples historically in which nations tacitly agree out of their own self-interest, in the context of potential warfare between them, not to do certain things. Given that modern societies and increasingly even developing societies—all of us—are vulnerable to the cyber world, potentially this is an area we need to start talking about or tacitly to recognize that it is something wherein...all our interests lead us away from doing this.

Now, that doesn't account for the potential terrorist attack and the non-state actors involved, about which we do have to be concerned. But I'm a bit of a skeptic about the emphasis we should place and the amount of investment outside of normal security requirements that we need to make in these areas.

Mrs. Cheryl Gallant: You said there is no evidence that a dedicated weapon exists in space. How would a magnetic pulse be deployed? Is there even evidence to suggest that this type actually exists?

● (1215)

Dr. James Fergusson: Are you speaking of an electro-magnetic pulse weapon, an EMP?

There's no evidence that an actual weapon exists. There are only reports of the United States and others testing them and developing them, partially for potentially offensive reasons or for defensive reasons. There is a long range of different types of weapons that you can imagine being deployed in outer space. These are potential dual-use technologies coming out of the civilian sector that are then going to be transferred into the military sector.

You would need to talk to a scientist about how you would actually use them, because I don't know how they would use them. I've learned over my years to stop trusting what scientists tell me.

The Chair: Thank you very much.

Mr. Alexander, you have the final questions in the five-minute round.

Mr. Chris Alexander (Ajax—Pickering, CPC): Thanks very much.

Professor Fergusson, we spent a lot of time, in the 1990s especially, worrying about the proliferation of chemical, biological, nuclear, radiological weapons. Do you think that threat has increased, has remained stable, or has gone down over the last decade or decade and a half? How should it affect our thinking about readiness?

Dr. James Fergusson: I have puzzled over that issue for a long time. The nuclear proliferation threat I think has gradually increased over time. The Achilles heel of the nuclear proliferation treaty—which we're seeing now played out fully in the case of Iran—is that you signed onto NPT and publicly said you wouldn't acquire nuclear weapons, but in return you had access to nuclear technology. Then over time, when political circumstances change and a new regime decides it wants to go down that path, it now has the technology and the fundamental knowledge and scientists to do this. This is the exact case of Iran today. If you go back, the foundation of its nuclear program was a function of NPT and the transfer of peaceful nuclear technology to the shah's regime, courtesy of the United States, West Germany, and others. Once you've got that piece, you now can start to move.

So I think on the nuclear question that it has slowly increased, along with the increasing evidence of the development of long-range ballistic missile delivery systems. But I've always believed that in this world the nuclear equation stands separate from the chemical and biological. I don't see any significant increase, I don't see any significant evidence, I don't see any significant sense, whether it's by states or by non-state actors, that they see any significant political utility in chemical and biological weapons. For the crazy, the criminal, the little evidence we have there is of concern, but I certainly don't put the chemical and biological.... I would say that has stabilized or gone down.

Mr. Chris Alexander: On a completely different subject, in my view, the consensus after the experience of Afghanistan is that using our defence resources or allied defence resources in support of nation building should only be done on a very targeted basis, in a very disciplined way.

Trying to have military people, commands, engaged with civilian-style institution building is highly problematic. We have heard that from the development community and the humanitarian community consistently over the years, even those that are pro military. But there is a role in training, which I think you implied earlier, certainly of foreign militaries and sometimes of police, and that's exactly how we're engaged in Afghanistan. Do you think this is a major task for which the Canadian Forces should be ready in the future?

You mentioned Africa. Obviously, we are engaged to some extent in Africa in this kind of task, but there are needs there and in some parts of Asia, Latin America, and so forth. Indeed, there are perhaps ongoing needs among some of our NATO allies in specialized fields in Europe. What is the scale of that challenge? We can't predict the future, but how do you assess the probability of our being involved in that field?

● (1220)

Dr. James Fergusson: Probability in the field of Africa or nation building with armed forces?

Mr. Chris Alexander: Nation building, in those focused senses.

Dr. James Fergusson: I think it is extremely problematic, and I think there are lessons, which will become better known as distance from Afghanistan is gained, that this has been problematic. I think the presence is beyond the need to be sensitive to local cultures, when you're at the village level in these operations. But that's not nation building per se. I mean, part of it hinges upon what nation building is. But when you have military officials acting at higher levels in the nation building process, at the levels of national governments and provincial districts, providing non-military advice, I tend to think it's extremely problematic, and it hinges back upon what it is we are designing and maintaining armed forces for. It's a readiness question as well.

Mr. Chris Alexander: If I could clarify the question, though, you did mention that nation building was a probable area for which the Canadian Forces should be prepared. What did you mean by that?

Dr. James Fergusson: No. If I mentioned that, let me correct myself. I don't think the Canadian Forces should be prepared for nation building. If anything, the development forces, the people who have the expertise in nation building, the people in the civilian world, need to alter the way they think and train for these types of missions in insecure environments and when working with the military.

The problem is not the military's problem. The problem is on the other side of the fence. That's what I would argue.

The Chair: Thank you.

Dr. James Fergusson: I think the lessons of Afghanistan increasingly will be that the western nations will be reluctant to do this again for a long time.

The Chair: Thank you.

That ends our second round. We are going to go with three more questions in our third round, one per party.

[*Translation*]

Ms. Moore, you have five minutes.

Ms. Christine Moore: I would like to ask some questions about the F-35s and fighter jets in general.

The F-35 is not necessarily the best choice if we look exclusively at our domestic operations. In fact, the aircraft has less range and requires a longer runway. So it is more difficult to land it on an airstrip in the Arctic. In addition, it is a single-engine jet, which leads to additional risks in the event of an engine failure.

Why did we not consider the possibility of having two smaller fleets of fighter jets, one more suited to our domestic requirements and the other to our overseas requirements? Can you tell us why that solution was not envisaged?

You say that having a fleet made up exclusively of F-35 fighter jets would limit our air force, and that many other fighter aircraft have good capabilities and are less expensive. One of the only notable differences with the F-35 is its stealth capability, but that is something the Americans already have.

[*English*]

Dr. James Fergusson: To the first question you asked, certainly two smaller fleets can be considered, but when you get to two smaller fleets, you're not just talking about having dedicated, less capable fighters, whatever you want to call them, for domestic roles versus those you would deploy overseas. You're also talking about long, extensive support lines, logistic lines, and training lines, which have to be in place to support different planes and different training requirements. All this in fact adds greater money to the cost. If you look at the process, it's something the active community, to my knowledge, hasn't really looked at closely.

By the 1980s and into the early the 1990s, there was a conscious decision on the part of all of the major western actors when it came to aerospace capabilities that the solution to the problem, given advancing technologies, was to develop multi-role platforms, to eliminate specialized platforms and move them all into one platform capable of doing everything. This has been the logic that has been driven by technology and costs, and shrinking—relative to constraints—defence budgets.

That's where this idea of having a single platform that can do everything came from. Its fundamental idea remains, which is a fundamental military idea that the combat is what we're looking for, and it cannot perform the rest of the roles. I'm not sure if I would agree with you that the F-35 is not optimal. It can certainly do the air sovereignty role. I'm not concerned, given my knowledge of the existing forward operating locations.

The engine question is an interesting question. It comes back to the reason we bought the F-18, or why the military tried to rationalize the F-18. I don't think that's a major problem, but an engineer would have to tell you the increased probability of losing one engine of an F-35 in the Arctic.

The key has been this notion that you don't want to dedicate separate platforms because of the cost of all of them. It's a cost-driven thing that leads you to buy the more expensive, advanced ones to do all of the roles, rather than go down to two or three fleets. National Defence hasn't been consistent there, but that has been the logic for a long time.

Concerning other air capabilities that are less expensive, I'm not convinced at the end of the day when you start talking about expenses how much they would end up being less expensive. I think you have to be very careful. People pull numbers out of production line hats. This is what the per unit cost is. Companies competing with each other are happy to tell you what the per unit cost will look like before you start to enter into the production line. It depends where the production line is. It depends what unique demands you want. To my knowledge, any of the other options, except for the Super Hornet, don't have two engines. They are all one-engine planes, if my memory serves me correctly. That doesn't fix anything. Above all, they are less capable. I think you're mistaken to think this is just stealth as the unique capability. There are a lot more advanced capabilities on this plane that do not exist on the existing previous generation platforms that you cannot ignore.

● (1225)

The Chair: We're going to keep moving on.

Mr. McKay.

Hon. John McKay: I briefly wanted to carry on the conversation about the submarines. The government of the day was persuaded by the military that these were absolutely necessary for strategic and surveillance purposes and all the rest of the stuff, and of course the program has been somewhat less than optimal since. Apparently, our country has survived quite nicely, thank you very much, between when we didn't have the submarine capability and now. Here we are 10 years later. We're getting ready to fire our first torpedo. This is a pretty exciting day.

The vice admiral was here. Of course, he put out a pretty stout defence as to why we need these things. Your argument seems to be that it's really questionable whether we needed them when the government bought them in the first place. It's even less arguable that we need them now. There are other “platforms” to find out what we need, where we need it, and how much information we need. It's not likely we're going to get involved in any very serious conflicts with anybody. We're not going to be taking on the Russians, Americans, or the Chinese with respect to our submarines, so really, what's the point?

Therefore, is your advice to the government that this is one of the things they should just drop? This has just been a bad deal, and it's only getting worse, and the likelihood of it actually having any utility through to 2030 is quite minimal.

Dr. James Fergusson: My advice for the government would be to take a very close and detailed independent study of the current state.

Hon. John McKay: You sound like a politician.

Dr. James Fergusson: I say that because there are things I didn't mention. One is what I would call the “elephant in the room” about submarines. The United States and the United Kingdom have gotten out of the conventional submarine business. We're one of the key allies left, when they get working, in the conventional business. They potentially make a significant contribution to the training and development of technologies, tactics, and doctrines for dealing with potential adversaries overseas that our allies may have to face.

Is that worth the investment? What do we get out of that, paying all this money to do this for our allies? What return do we get, relative to all the other costs? That’s why I think we need—

● (1230)

Hon. John McKay: Do you think this is a glorified training operation? Is that the argument as to why you keep the thing?

Dr. James Fergusson: The only argument I would potentially be convinced by is if there's strategic political value that stems from that.

Hon. John McKay: Thank you.

The final question has to do with General Leslie's report, which has been the great elephant sitting in the room, or there's a whole bunch of elephants actually sitting in the room. General Leslie's report thus far has not been responded to by either the minister or the CDS, which is very consistent with Professor Bland's observations about some of these reports—which is that they just gather dust. The military, one way or another, is going to be facing budget cuts in either absolute dollars or percentage dollars. Leslie has set forth a potential series of responses, which is the only thing that's publicly out there.

The British military went through the same thing. In fact, they had a report, and seven months later they were actually implementing it. So my question for you is, what do you like in Leslie's report and what don't you like, in 25 words or less?

Dr. James Fergusson: In twenty-five words or less, what I like in Leslie's report is that it has put on the table the issue of what I call the long-standing problem of western militaries' tooth-to-tail ratios—no one likes to use that term anymore, but I like to use it—where we've expanded, where the tail keeps expanding. This tail expansion is partially a function of the forces changing missions, doing things they traditionally have not done, where they engage with other government departments, with new technologies, etc., which then expand. It's also in response to broader government policy on—to use terms I don't like, but I'll use them because governments love to use them, and not this one but all governments—transparency and accountability, which also all grow the tail.

It's useful to put something on the table. I am very suspicious of it because I don't think it's a balanced report whatsoever. I don't think the legacy of what the Canadian military called military transformation was a good one in terms of dealing with the various issues he's arguing about in this report. I can point back to General Hillier's transformation process and his call that we were going to sort out the problems, get more people at the sharp end, into the tooth part of the forces and the tail, and instead the entire opposite occurred.

What I would suggest about that report is that it deals with one part of the problem. The second part is missing, and that is an external inquiry or examination of the military side of this equation. That's what's missing here, in my view.

The Chair: Thank you.

The last question is for Mr. Opitz.

Mr. Ted Opitz: Thank you, Mr. Chair.

In your conversation with Mr. Alexander, I think we agreed that nation building is problematic for military forces. However, what about cases where failed states lack the security forces to exercise their own sovereignty and to enforce the rule of law? Can you comment on whether we should be ready for NATO or other multinational training missions?

Dr. James Fergusson: Let me be clear. I do not see training missions—training the armed forces of a state coming out of civil war or trying to redevelop or restructure itself—as problematic. In fact, I think they're very important. That extends not only to training their militaries, but also, if you take the model of NATO's Partnership for Peace, of training defence departments and those people. That's where the expertise of the military and civilian defence officials is vitally important. But that does not extend to the military getting involved in those things outside of its ambit and its expertise, notwithstanding that I have always been very skeptical that we should be in the nation-building business at all.

● (1235)

Mr. Ted Opitz: I just want to get back to the F-35 purchase. You almost finished a thought on expense and expense versus, for example, survivability, expense versus multiple platforms over time, and expense over time versus the depreciation of technology. For example, you buy a fourth-generation fighter. Right now we're very close to having had one for close to 40 years. You're basically buying an updated version of that. You can expect it to go another 30 or 40 years. What would be your comment on buying that versus the F-35?

You talked about some of the capabilities. And you're right, it's not just stealth. It's doing for the pilots a lot of the things done right now in the cockpit by the pilots. By not being distracted by doing those things, by automating those systems that currently are not automated, the pilot can keep his head up and fly this airplane more effectively than other versions or more obsolete versions. Can you comment, sir?

Dr. James Fergusson: It's tough to comment on it. From my perspective, in the world I live in, we have to sort through all the academic and published government and company reports and studies to try to get a feel for what capabilities are really embedded in it. These are so advanced and sophisticated we won't know until we see them actually come into operation what they can and can't do. Even then, we have difficulty trying to make judgments about them.

I think of it this way, and maybe this is the best way to answer. If we bought a fourth-generation fighter, or a four-and-a-half-generation fighter, whatever they want to call these things, instead of the F-35, how soon would you have to begin modernizing it and replacing key parts to make the platform interoperable and most effective? At least with the F-35, in this sense, you have a state-of-the-art, as we know it today, platform being deployed. That should give some assurances. And it should be structured better, given that engineers are thinking down the road about how we are going to pull parts out and put new technology in. If you go with something older that has older technologies, you start to get into a situation of potentially having to start replacing those technologies much earlier. The next thing you know, instead of looking at a mid-life update to an F-35 in 15 or 20 years, you're doing a mid-life update to the other platform in five years, after you've spent a lot of money on it.

There are no guarantees one way or the other, of course, because we just don't know how technology is going to advance. One of the key capabilities I think the F-35 will possess, which a lot of the others don't have, and you talked about one of them—think in terms of modern American thinking about net-centric warfare—is being able to integrate disparate platforms so that all the parts have common operating pictures. They can provide what they call a systems-to-systems approach. My understanding and my view of the F-35, because it integrates marine, air force, and navy capabilities.... They're on different platforms. But if these are going to be structured so that they can all be engaged in a common operating picture—receiving it, transmitting to it—it will be more effective for the overall efficiency and effectiveness of the delivery of force wherever you want to deliver it.

I think that's a thing people don't really want to talk about. Rather than looking at how this is going to fit into a much broader set of systems and military thinking about what we used to call our revolution in military affairs in the future, they get obsessed with sharpening things.

The Chair: Thank you.

I have a couple of questions for you, Dr. Fergusson. I've really enjoyed your presentation and your answers to the questions that have been put forward by committee members.

In one of the exchanges, you mentioned that the greatest challenge for the Canadian Forces, and the greatest threat to Canada, is the aerospace threat. What is that threat you're alluding to? And why is it so important that we have that capability to defend the Canadian interest?

Dr. James Fergusson: Fundamentally, it's a function of that thing we never talk about anymore: geography. We live in a very nice part of the world. We can only be touched from a distance, and the way technology has moved and military technologies have moved, the threats to Canada over the past 50 to 60 years have increasingly emerged from an age before World War II, where we really had no military threats to Canada. These have emerged because technology has enabled distance and more distant actors to be able to come and touch us.

These have all been through the development of the airplane, of ballistic missiles, and now, increasingly, space-based assets—satellites, whatever you want to call them.

If you look increasingly at how those in turn—if you think of air and space in that way, how those assets also have become more integrated within a global economy, they are fundamental to the space sector and in particular are fundamental to a modern, advanced economy like Canada's.

We are a big country. We have to talk to people along the way. We need advanced telecommunications systems and all these things. If you look at the core, in my view—if you think in traditional military terms—of how these threats are going to be manifested to Canada, the answer is they are going to come through the airspace and the electronic waves out there. That, to me, is where essentially the central focus is; that's where the forces and the government and National Defence need to concentrate their efforts, if we prioritize National Defence and defence of Canada as truly our number one priority.

That's why I think aerospace is the key element and will be for the time being.

● (1240)

The Chair: I appreciate that.

The other comment that you briefly made in your opening statement and is somewhat alluded to in General Leslie's report on transformation is the change in our reserve force to part-time positions, moving them back into citizen soldiers, and backfilling those positions with regular forces within the operations of the Canadian Forces.

You mentioned that's going to be an issue for readiness, overall operational capability. As we are now in a system of lower activity, why is that such a concern?

Dr. James Fergusson: I'm sure many members of the committee are aware, and I'm sure that people from the reserves have been here—I would hope some of them have been here to talk about these issues—there has been a long-standing set of issues and tensions between regular forces and reserve forces, if you go back to the 1950s and 1960s and issues about what to do.

When you look at what happens in eras of constrained fiscal resources and investments, the initial target is always the reserves, the citizen soldiers, if you wish, the militia. We have to be very careful because the army reserves are not the navy reserves and they're not the air force reserves. As I alluded to in my report, you can't have one solution here for the reserves, or for any of them, because they are somewhat different beasts, notwithstanding the jointness idea.

The target is always to protect the regular forces, or what I call the first responders. To protect their readiness, where are we going to then turn and cut or deal with...? The vulnerability ends up being the reserves. At best, in my view, if you go back to pre-Afghanistan and look at what the reserves were doing, and then as Afghanistan geared up and that became the focus of attention, particularly for the army, but for the whole forces, which started to pull personnel away, what happened? The reserves started to backfill, started to go overseas. They became vital to the long-term sustainment of Afghan and Canadian defence.

The idea, at least in my mind, is if you want to be immediately ready in the future, then reserves can be put on the back burner, because what they will end up for us—if we go overseas again with a major commitment, we hope we will have time to backfill them and to train them, equip them to sustain the existing forces.

The problem is, however, to make sure that some of those backfilled roles aren't entirely eliminated. It's a bit of a catch-22. My understanding is a lot of the reserves are full time in training and education establishments. You have to keep those positions because they're vital for readiness, and if you lose them and you don't replace them, then you have a problem down the road. You start to eat away your tail, and the next thing you know, you disappear. That's my view.

I'm not an expert on the reserves, but I think the reserves are an important issue with regard to understanding how the Department of National Defence and the military should deal with the readiness problem in the future.

● (1245)

The Chair: Thank you, Doctor. Your input today has been very valuable.

Before we adjourn, I want to inform committee members that we are making a scheduling change. As you know, the supplementary estimates (C) for 2011-12 and the main estimates for 2012-13 have been referred to us. Minister Fantino and Minister MacKay have agreed to appear before the committee on March 13. That was originally scheduled for a steering committee meeting. So on March 15, where we have only one witness available, we'll do one hour with that witness, Dr. Rob Huebert from the University of Calgary. The second hour will be a steering committee.

With that, I'll entertain a motion to adjourn.

An hon. member: So moved.

The Chair: The meeting is adjourned.