

## ***DGPA TRANSCRIPTS - DOCUMENTATION DGAP***

**TOPIC/SUJET:** "Where Should We Be in 20 Years?"

**AGENCY/AGENCE:** Media Q

**DATE-TIME/DATE-HEURE:** 21 14h45 February 2002

**REFERENCE:** 02022120

### **"Where Should We Be in 20 Years?" A Panel Discussion During the "Combat Capability and the Canadian Forces" Seminar at the Annual General Meeting of the Conference of Defence Associations**

Moderator: A brief announcement about the proceedings. The presentations of our speakers, as soon as we receive them, will be posted on the CDA web site. So you can see them there and download them at wish.

Mesdames et messieurs, j'ai le grand plaisir et l'honneur de vous présenter le modérateur de notre session de cette après-midi qui porte sur le sujet suivant: "La capacité au combat et les forces armées canadiennes: 20 ans dans le futur." Our moderator for this afternoon's panel began his political career in 1968 as the executive director of the Liberal Party in Ontario. From 1970 till '79 he worked in the prime minister's office as special assistant, director of operations, policy advisor and assistant principal secretary to the prime minister, the Right Honourable Pierre Trudeau. During his parliamentary career, Senator Kenny has served on numerous committees. They include the Special Committee on Terrorism and Security, the Special Joint Committee on Canada's Defence Policy, the Standing Committee on Banking, Trade and Commerce, the Standing Committee on National Finance and the Standing Committee on Internal Economy, Budgets and Administration. He is currently chair of the Standing Senate Committee on National Security and Defence and the senator's first report of the deliberations of that committee will be available on the 28<sup>th</sup> of February. Senator Kenny advises that for those wishing copies of that report contact with his office or indeed with the CDA office will result in a copy being made available for you. He is also deputy chair of the Special Committee on Illegal Drugs. The senator is also currently a member of the Steering Committee on the Standing Senate Committee on Energy, the Environment and Natural Resources. Senator Kenny has been elected as rapporteur for the Defence and Security Committee of the NATO Parliamentary Assembly. Part of that he was chair of the NATO Parliamentary Assembly Subcommittee on the Future Security and Defence Capabilities and Vice-Chair of the NATO Parliamentary Assembly Subcommittee on the Future of the Armed Forces. Our distinguished moderator for the panel, Senator Kenny who will introduce the members of his panel. Please join me in welcoming Senator Kenny.

Hon. Colin Kenny: Thank you very much for that introduction. The topic of this afternoon's panel discussion is "Where Should We Be in 20 Years?" The conference has heard from a variety of thoughtful speakers so far and had a panel discussion on where we are now. The objective of our panel is to look out 20 years. Our presenters will take up this challenge and address issues such as the Revolution in Military Affairs, asymmetric warfare, bloodless war, technology versus labour intensive forces, shifts from threat-based planning to capability-

based planning and the implications of Canada as a follower.

By way of introduction I'd like to make a few points. First, any 20-year forecast raises a number of prerequisite questions. What sort of world will we be facing in 20 years? This brings to mind issues associated with economics, globalization, energy, population growth, migration, the environment, and the key one of political governance at international, national and local levels. All this is extremely difficult to predict. I ask you to think about what it would have been like to look forward from 1900 to 1920, or 1930 to 1950 or 1980 to the year 2000. More than a few paradigm shifts were involved in transitioning those decades.

What is the nature of the threat? It's difficult to say. It will depend on the world condition and the emergence of future grievances. History tells us, however, that there have been few prolonged periods of global stability over the centuries and continuous instability has been the norm at regional and local levels. We have to anticipate and be prepared for this pattern to continue. Asymmetrical threats are developing increased importance but we must not assume they've completely supplanted symmetrical threats. There remain many undemocratic states in the world, some with significant military capability. The proliferation of weapons of mass destruction is a matter which will continue to be of major concern and an important issue for our attention in the coming decades. China is continuing to take steps to integrate itself into the world and we need to ensure that this macro development proceeds. Care has to be taken to ensure that the bipolar standoff over the Atlantic which ended a decade ago is not replaced by one over the Pacific.

What will our own country like be in 20 years? Our multicultural population is going to grow in percentage terms. Members from all Canadian communities will increasingly find their place in Canada's political and economic leadership. Both these developments suggest that Canada will have an even greater interest in developments throughout the world and is likely to find its national interests overseas more widely dispersed. What kind of military capability are we going to require in these circumstances? How will our national interests expand overseas? And what sort of instability will continue to challenge us?

I would argue that we are going to need an enhanced intelligence capability including that of the military to identify and address threats to our national interests as early as possible and as far away from Canada as possible. In other words, we don't want to have to confront them only after they arrive at our doorstep. The Canadian Forces will need to ensure their personnel are well-educated, trained and reflect Canadian society. Technology driven by the United States will play a greater role with military forces everywhere. The Canadian military will continue to have to provide support to the civilian power across the country as well as expeditionary forces abroad and this will always require foot soldiers as has been the case since the days of the Roman empire.

Specialization has been mentioned as a partial solution to dealing with the twin dilemmas of increasing demands and (inaudible) runs the risk of leaving us with a specialized force which could either become outdated or unusable when military action is required. This calls for a flexible, capable military force able to deal with both symmetrical and asymmetrical threats

at home and abroad. Thank you.

I'd now like to introduce Dr. James Fergusson. He received his PhD from the University of British Columbia in 1989. He is currently deputy director of the Centre for Defence and Security Studies and an associate professor in the Department of Political Studies at the University of Manitoba. He regularly lectures to the general and senior officers' space indoctrination course, the Canadian Forces College of Strategic Defence, the air force course in Winnipeg and the Democratic Civil Military Relations Program here in Ottawa. Most recently Dr. Fergusson completed a NATO fellowship study entitled "Ballistic Missile Defence: Implications for the Alliance" and co-authored with Mr. Steve James the 2000 Space Appreciation Report for the Directorate of Space Development, Department of National Defence in which he looked specifically at missile proliferation, missile defence, space control and the international legal regime on outer space. In addition, Dr. Fergusson has written several reports for the Non-Proliferation Arms Control and Disarmament Division of the Department of Foreign Affairs on ballistic missile defence and non-proliferation, the Conventional Forces in Europe Treaty, the United Nations Conventional Arms Register and recently completed report entitled "Strategic Stability Reconsidered." Dr. Fergusson has also testified before the Standing Committee on Foreign Affairs and International Trade, the Standing Senate Committee on National Security and Defence and the Joint Parliamentary Committee on Canada's Defence Policy. Dr. Fergusson is currently completing research on a book entitled "Déjà Vu, All Over Again: Canadian Policy from ABM and SDI to MND and Beyond." Please welcome Dr. Fergusson.

Dr. James Fergusson: Thank you very much for that warm greeting. Now I'm in trouble. I hope when I'm finished, given that I'm a bit of a heretic, that I will have a warm departure as well. Senator Kenny just gave you a list of all the issues, questions, considerations that have to be taken into account in looking into the future - a very daunting list. Richard Gimlett this morning mentioned that futurology is a mug's game which makes me a mug I guess and General Henault wished he had a crystal ball which I don't have either.

But nonetheless, despite the fact that university library shelves are full of predictions in books which have been wrong, I'm going to try and take at least a bit of a stab at the future from the context of the current situation facing the Canadian Forces. The good thing is that if I do get it right, I could become very successful. I could become rich and famous and of course have some degree of immortality. I remind you after, even though the point was made no one predicted September 11<sup>th</sup>, 9/11, in fact two days afterwards it was pointed out that someone did predict it and that was Nostra Damus, which may say something about the way I should write these days.

Looking into the future I thought maybe to be very bold, to boldly go and given the introduction I was given you've probably guess already I should focus on a very different alternative future, perhaps a radical change in the CF and being an academic I can avoid or ignore all realities, political realities of today, fiscal realities and just dream my dreams. But nonetheless, if you look at the strategic objective of the United States, their military strategic objective, it's clear to me it's one thing. this administration and as well elements of previous administration have set the objective that the United States will jump ahead a generation of

technology and in the process transform its military forces in a manner of form and function radically different from the way we understand military force today. And it would seem to me if you take that, perhaps, as an objective which we as Canadians could think about, how would we get ahead of the curve on this?

The answer is the fourth dimension of warfare outer space. Stopping what you're doing, moving to outer space. It's clear in my mind, all the indicators are there that outer space within the next decade will be the fourth dimension of warfare. It will be more or less weaponized. It is a dimension that's unique from the other three dimensions. There are a great number of research and development opportunities with economic spinoffs and I could go further and further down the road about the investments and the importance of getting ahead of the curve on outer space for the Canadian Forces. And also argue to you, I think very persuasively, why there are great political benefits to be had if we get out ahead of the curve. Of course the costs are enormous and it would require Canada to stop what it's doing today.

But I did want to begin by leaving outer space in the front of your minds because I think that's something we really closely have to consider because we are all aware that today outer space is vital to military capabilities. It's a vital - or as the Americans put it - a centre of gravity for the American economy and the American military. It is the lynchpin of the so-called Revolution of Military Affairs. It is why the Rumsfeld Commission's emphasized the importance of developing space control, surveillance, defence and denial capabilities for the United States in the near future.

But putting that in your mind, let me look at briefly where we are today and to do so let me bring to you mind or remind you of a concept that has disappeared. It's a concept coined in the mid-'70s by a gentleman by the name of Thomas Callahan and the concept was structural disarmament. In the context of the world the United States faced, the American military faced in the post-Vietnam period, underfunded, context of relatively runaway inflation and other severe economic problems, in the context of the burden-sharing debate that was in full flight or full steam in NATO, Callahan argued that these elements as well as pressures from the nature of research and development, technological developments in the military, inefficiencies in the procurement and the industrial practices, that the United States and the west as a whole was on the path of structural disarmament, disarming itself. And to emphasize this point he noted that -- or suggested that as an extreme that by 2050 the entire US defence budget would go to buy one fighter. And I always like to add following that, but what a fighter it would be.

He was wrong in the case of the United States. However, I would suggest that rather in the case for Canada the current attempt, no matter how we frame it from the way the minister talked this morning, the way General Henault and others have talked, no matter how we look at it, the ongoing attempt to maintain a structure and sense capabilities by and large balanced across the board what we now call multipurpose, combat capable forces among all the services will result most likely in a structurally disarmed CF by 2020 - a force capable of a bit of everything but a lot of nothing.

Why? Well, we know the answer to that. It's simple funding. This government, as was spoken of this morning, is evident in the best conditions in many ways following September 11<sup>th</sup> and the December budget and likely future governments and past governments will not meet the demands for increased funding from whomever or wherever they come. They will not increase baseline funding and the best you can hope for is that their one-off increases won't come back to haunt you in the baseline and that you might get some form of inflation increases every year but even then that will not be sufficient to cover the larger rate of defence inflation, the defence inflator.

In other words, the current force structure is unsustainable in this country. We talk about sustainment with regards to our forces overseas. We don't talk about sustainment in terms of the forces we have today as a whole. It raises the point that I think the minister mentioned and others mentioned of making difficult choices - hard, unenviable choices which have to be made, I would suggest, sooner rather than later.

Ironically, in the political culture of this country, ironically in a country that talks a great deal about civil military relations, is concerned always about meeting or wanting the government to define what its strategic interests are, what its strategic intent is, what types of forces it wants, it needs and will be willing to fund, ironically in this country those types of things which will inform the choices that have to be made don't exist. Rather, the Canadian Forces themselves, I would suggest to you, have relatively great scope and flexibility to define its own future - its own future based on the following considerations I think based that are grounded in the historical evidence.

We talk about no strategic visions, no strategies on the part of government. I suggest we're wrong. There is a strategic vision. There is a strategy on the part of successive Canadian governments. It just doesn't look like the vision or strategy which we are accustomed to in terms of studying the military art. Except on the margins this government in terms of its vision, its strategies, has little interest, knowledge or understanding of the details surrounding armed force and its role on the international stage, not to mention the domestic stage. Nonetheless, this government, as previous governments and future governments, will continue to seek a role on the international stage for a variety of different reasons coming from a variety of different arguments.

The internationalist vocation will remain in place in Canada. The government will continue to see to deploy forces overseas in light of these interests - whatever they may be, whatever arguments we want to give to them - as central to this internationalist vocation, as these forces are available. They want forces to use but they are not overly interested in, nor will they ever be overly interested in, I suggest, the exact type, nature and role that they perform. If you can call them peacekeeping, what they look like, at the end of the day doesn't really matter.

The second reason that latitude exists for the Canadian Forces, I would suggest, comes from our core ally, the United States. There's no doubt the United States has always been, is today, and in the foreseeable future into 2020 and beyond will be the lead nation which will define the models, the basic parameters by which all nations will follow - no different than the

historical reality that every nation has copied the dominant successful military powers, the military great powers.

What does the United States have to say in their policy about its allies and their contribution? Well, I think it's clear to me what this administration thinks and I think it's something that future administrations will think as well. And let me quote from Secretary of Defence Rumsfeld's speech to the National Defence University on January 31<sup>st</sup>, and I quote. "Our policy in this war of accepting help from any country on a basis that is comfortable for them and allowing them to categorize what it is they are doing to help us instead of our categorizing it for them or saying that we won't have a country participate unless they would participate in every single respect of this effort is enabling us to maximize both their cooperation and our effectiveness against the enemy."

In other words, the United States is providing its allies, recognizing the growing - and will grow even further by 2020 - gap between them and the allies that there'll be limited areas where they can contribute but they seek cooperation, they seek contributions but believe that these contributions and this cooperation has to be defined by the allies and not by them. The door is open. Bring to the fight what individual nations think they contribute best to the fight as defined by their nation.

Thirdly, with regards to the world of 2020 and how it will unfold from today, let me suggest to you that we do not live in an ambiguous, uncertain environment. You may criticize me for thinking or simply projecting the current situation to the future and things will change, but I would suggest to you every indicator you look at today and track it forward tells us of a certain political strategic environment. The United States will remain the single dominant military power in the world. It will remain the single dominant political power in the world. It will remain the most significant driver, notwithstanding some evidence to the contrary that economists bring out, it will remain the single important economic engine of the world economy. This is not going to change by 2020. It's unlikely to change by 2030, not least of all because the United States recognizes it and seeks to maintain, if not grow, that position. We are facing a period of time, a relatively stable period of time in which the United States is unparalleled in the history of western civilization unless you go back to the Roman Empire.

Secondly, there is a near zero probability of a major great power war. Certainly I can be wrong but all the indicators when you look at what the Russians are saying, what the Russian military, what the Chinese military are saying, what everyone is saying, is basically they would be foolhardy to even bungle themselves into a war with the United States. This is not likely to change.

Thirdly, the types of combat - seeing as we're here talking about combat capable forces - the types of combat one has to be concerned about, the types of missions one will entertain in the next 20 years are similar to the missions we've entertained by and large for the last 10 years. They take two forms in my mind: one are wars of interventions led by the United States in which the west shares common interest in values, in which Canada shares common interest in values with the United States. Understanding these wars of intervention to my mind are very simple - the historical referent is the colonial wars of the 19<sup>th</sup> century. Those are the type of

wars in which we will be likely engaged. We won't call them colonial, we won't call them imperial but they're basically the same.

The second and related, of course, is what I call the wars of failed states, what we used to call wars of national liberation we now call ethnic cleansing or ethnic wars but basically wars, struggles over statehood, over governments. The issue of the transition between those, how a war of a failed state à la Afghanistan transitions into a war of intervention are interesting phenomena. But the forces we're looking at are forces that can manage, such as a forest fire metaphor, to build some sort of ring around it to control it, peace operations in the wars of failed states, with the ability and knowledge to prepare its transition into wars of intervention if the situation arises. Those are very certain. That environment, to me, is a very certain one and it's not going to change. So my suggestion is let's stop talking about uncertainty and start talking about certainty in this world. You can't predict what will happen tomorrow but you never could, you never will and if you try to build a force structure, you try to change on the basis of unpredictability and uncertainty, well that's a recipe for paralysis. Nothing will happen because you are frozen in time out of fear of the unknown.

What then for planning for 2020? I would suggest planning for 2020 means a target date of planning for 2010 which means in fact planning today trying to think about the structures of forces, the vision of what will be needed to transition in that 10 years with combat capabilities so that one is in place as the new technologies start to come online. 2010 is an important year because it's roughly around 2010 that all the technologies the Americans are talking about - missile defence, advanced unmanned aerial combat vehicles, new satellite systems, total battle space awareness, real time 24/7 all weather capabilities - all those things, if you look at them, they will all start to come out into operational terms at different stages but they seem to be bulked around the year 2010. Thinking today about what those things as they come out then prepares you for the future.

Now I'm not going to stand here and suggest to you that I have, as I said, a crystal ball that can tell you the force structure. But what I will suggest to you is that this technology, this Revolution in Military Affairs or Evolution in Military Affairs or the American transformation agenda, whatever it really means, and of course the debate is a wonderful academic which I enjoy but it is an academic debate not dissimilar from how many angels can dance on the head of the pin in the middle ages. We do know that clearly the Americans are talking about significant restructuring of the forces, to be quicker, lighter and more lethal. They're talking about global reach, precision strike and total battle space awareness. What are they really talking about? What they're really talking about, I would suggest, is the replacement of labour by technology on the battlefields of 2020. The role and function of labour will no longer be combat. It will be to support technologies which will undertake combat. It means, it seems to me, that we have to start thinking differently of what we define and understand combat capability to be.

The history of warfare in western civilization - and this is why within the debate I think it's interesting - the history of warfare is one increasingly of removing the human being from the front of the battlefield further and further and further away from harm's way. It's married by interesting aspects, it seems to me of American culture, American technology, American,

what I call the American way of war. The combat officer in 2020 will not be standing watching his troops on a field, will not be flying jets, may not even be floating on ships. They may be sitting at home, in an office building connected into terminals and able to see the entire battle space, command technology to meet what has always been the fundamental goal of the use of force: disabling your enemy in order to be able to compel them to do your will.

When one starts thinking, it seems to me that this is the world we're headed for, it means we have to change what we understand combat capability to be. It also means that when we talk about the future we have to talk about conceptualizing things in terms of functions rather than units, services and equipment. What functions have to be performed in the wars of intervention, in the wars of failed states and how do we perform those functions? What is the most efficient way to perform them? What's the most cost-effective way to perform them?

I should apologize to Richard for taking a shot at him in the navy but I will. Let's take a look at where we are today. Let's take a look at the current capital project, the plan of DPG 21 -- 2001, pardon me. The cadre program, the command and control area air defence destroyer replacement. It will be a destroyer replacing the destroyer. What function is that destroyer supposed to play? Is the destroyer the best platform to perform that function? If it's 'going to go into the world of missile defence, is that the best way to do it? Is that the most efficient way to do it? We have an opportunity given our situation -- in fact the troubles that face the forces are a great opportunity to break out, it would seem to me from the trap or the legacy of the past. Ideas I've heard that the destroyer of the navy should acquire a land attack cruise missile capability for precision strikes. Does Canada want one? Do we need one and is the navy the best service? Those platforms are they the best way to deliver the function? Are there other ways we can do things, deliver those functions vital to combat different from the way we've conceptualized it which has largely been in terms of units, people, in the units, the services and equipment. Equipment define it in many ways rather than the functions they perform.

If, and let me conclude with this point - perhaps, and again being a naive academic living in the ivory tower - perhaps what I'd suggest is the CDS or someone here should take the best and the brightest, put them in a room divorced from the present, starting with a blank sheet, looking at the technologies that are coming and ask themselves in an ideal world on a \$12 billion budget what would you build? I would suggest to you if that was done the forces would look a lot differently than they look right now. And one of them at the core - and it goes back to the point I've tried to emphasize about combat capability - rethinking what we mean and understand combat capability to be, the importance of - and I was reminded of this at a meeting last week by a retired marine colonel, I think he was a colonel, who mentioned that the services, the logistics and support functions are combat services and that struck in mind because I think he's dead right that that's what combat capability will mean for the average human being, the average soldier, sailor, airman or what have you in the future.

But thinking in terms of rethinking combat capability, how we should understand it in the future, in the world of 2020 means of course recognizing that this idea of multipurpose, combat capable forces which is code for general purpose balanced forces - and I know everyone, I know if ADM Paul people were here they'd tell me I'm nuts - but that's exactly

what the code is for as far as I'm concerned. Sets you on a focussed path of which to balance or maintain combat capabilities in all three services. Shift to functions, think of combat differently in a new technological age, that certain world, and we are not talking about combat capable forces in every service. We need to talk about combat capable forces for the forces as a whole which can serve those instances where the government will turn and say do something, we need you overseas and the forces can respond efficiently and effectively in at the levels of a budget which is not going to change. Thank you very much.

Hon. Colin Kenny: Thank you very much, Dr. Fergusson. Our next presenter this afternoon is Colonel Howard Marsh, OMMCD. He's currently special assistant to the chief of land staff and has been since 2001. Colonel Marsh's career spans four decades. He joined the Canadian Cadet Corps in 1961, the militia in 1963 and the Canadian army in 1965. After commissioning in 1970 his first 15 years were spent leading armoured troops on operations and tactical training both in Canada and Germany. On posting to NDHQ in 1985 his academic education in engineering served the army well in acquisition and project direction. During his last decade of service Colonel Marsh has been trusted with senior command and executive level directorates, director of armoured corps, director of land force development and director of land requirements. He was also the commandant of the Royal Military College of Canada from 1996 to 1998 and land force command inspector from 1998 to 2001. Colonel Marsh's recent publications have included "Command Challenges in the 21<sup>st</sup> Century" which appeared in "Generalship and the Art of the Admiral" and "Emerging Technologies and Military Affairs" appearing in "Toward a Revolution in Military Affairs." Please welcome Colonel Marsh.

Col. Howie Marsh: I'm probably a living example of the keynote speaker this morning. I'm the infamous colonel with the infamous quote and so that you don't look upon me with rose-coloured or grey-coloured lenses, I never said that and I'll explain how it happened.

David Pugliese, who tends to bother senior officers with questions over a long period of time, could not be put off any longer and the chief of land staff said, "We need a volunteer. We need a colonel with a long career, a career that's preferably toasted, who can go forth and explain these things to David Pugliese." So I was sent forward to explain to David Pugliese Defence 101, Strategy 101, etc. And in the conversation I tried to explain to him that when you have a fixed amount of money, you can modify capital and you can modify O&M and you can modify personnel but it's a fixed relationship. And I probably made the mistake of saying we could have a Canadian Forces of 100,000 people with pitchforks or we could have a very small Canadian Forces with attack helicopters and modern equipment. And he said to me, "Well, where are the Canadian Forces at 60,000?" I said, "Well you know, we don't have pitchforks, we're somewhere in the middle." And he said "Well, if you wanted to get to attack helicopters and assault troopers what would you have to do?" And I said "You'd probably have to cash in half the soldiers." And that's where Canadian Forces -- "Colonel Marsh recommended that the Canadian Forces be cut in half."

I should try and follow my notes because I know we're running out of time here. In the December issue I try to explain that we needed a comprehensive definition for combat capability and at the apex of that definition was a thing called intent. If the intent is not there

you don't get combat capability. And so as I look into the future I ask the question, "What are the strategic determinants that are going to influence the political intent that will bring the Canadian combat capability?" And there's probably a longer list than five but I'd like to speak to five.

The first determinant that's going to shape our future is that no military can escape its history and we have a chequered history. I don't know where ADMH Churamilla (phonetic) is still here. But 30 years ago we brought in a professional human resource management system that's called the sluice gate system. I mean the official term is the Other Ranks Career Development Program and the Officer Career Development Program. It came out in 1974 and it's designed to function basically in 10-year gates. The first 10 years you apprenticeship in a soldier and if you get beyond that 10-year gate then you can have a reduced annuity and so 20 years of service and that's a 20-year gate and then you get to go to 30 years. So we have this gate system.

Now it just so happens - '74 is the start gate, okay? '84 - and General Belzile may remember this - the VCDS and ADM Per of the time were in love or encouraged greatly by the Conservative government who said we were going to increase defence spending by 3% per year and so all the operational elements were allowed to go to double recruiting. I was chief instructor of the armoured school and it was a wonderful time as we pumped in 240 crewmen a year and we all doubled production. So '84 was a bonus year. '85 was a bonus year. '86 was a bonus year all the way through until '89. So you've got this huge chunk of people.

Then '84, '94 we had defence economic review in '94 where we cut down the forces and we put all the brakes on and the recruiting went way down. Now we're approaching the year 2004. In the year 2004 those fat years of about 4,000 people per year will be eligible for retirement and those warrant officers and captains and so and so who are likely to retire at the 20-year period will be replaced by the sergeants who joined in 1994 and the sergeants who joined in 1995 and what we have is a human resource harmonic that's going to resonate in 2004, 2005, 2006, all the way to 2009 until it clears the system.

Now my background is engineering. When you have harmonics in a system that resonate for a prolonged period of time you have catastrophic failure. So I would conclude that despite all our optimism, the tough years are ahead in terms of personnel because to answer the question that was asked over here, what is the limiting factor in recruiting? Well, the number of sergeants you have and master corporals you have to train the people coming in. And if you only have 72 left well you can only have 72 platoons maybe. And so we're going to have a limit on how many people can come in and almost no limit on how many people can go out for a five-year period and that's going to bring -- I won't give a number because I'll be quoted in the press but that's going to really bring us to our knees about 2010 and then we will spend the next decade trying to get back up only to be knocked off our knees in 2012 and 13 when the civilian demographic, where the youth population drops by 30% per year cuts in and knocks us again.

So back to notes. So the battle for youth and talent will dominate military agendas for the next 20 years and it's likely to curtail aspirations requiring highly capable people such as

special operations personnel and cyber warriors and space-based people and all that good stuff.

The second aspect our history - I'm still on the first factor here - is the three decades of low capital investment. As a consequence we have very little experience and equipment of those things that have strategic influence: attack helicopters, attack submarines, strategic lift, stealth helicopters, long range artillery. I mean the list goes on and on. We just don't have those things. We don't have the experience. Because the personnel problem is going to be so acute in that time frame, we're going to shift hundreds of millions of dollars to try and solve the problem and the money will come from capital so I deduce that over the next 20 years we're likely to be a relatively low tech, short reach, non-strategic force.

Now the second determinant is science and technology. Now a lot of us have a hard time getting our minds around this but in the next 20 years it's anticipate there will be six million innovations registered at the United States Patent Office. And that doesn't include the anticipated 1.2 million math algorithms that are also going to be registered in that 20-year period. That is equivalent to the entire last century.

Now if I could sum up those six million pieces of innovation it's likely to be miniaturization, devolution and diffusion, okay? Things that you don't have now because they're too costly and too complex you will have as household staples in 20 years' time. I foresee individuals will have satellite ownership. Pico satellites, those little satellites that weigh about the size of a pound of butter are already in the air and they cost about \$10,000 to buy and \$10,000 to launch and I hope in the year 2013 to rent one from the Chinese so my kid can do a science project and fly a satellite to Mars. But also artificial intelligence will come to your homes. Hyper computing will come to your homes. The ability to do experiments in DNA mutilation will come to your homes. The ability to produce your own food with bioagriculture will be in your homes. Laser technology and laser cutting will allow you to manufacture things in your homes. You'll even be able to make aspirins and basic drugs in your own homes. All those things that are outside of your reach will come down to the home. And of course there's some big powerful things that will come down that people can make in their basements like gigawatt pulse generators so that if your neighbour has got his stereo turned up you just give him a little flash there of a gigawatt pulse and you just fry all his circuits or someone cuts you off at the corner you just turn it on and you just fry all his computer chips in his car and he'll stop.

Anyways, back to the text. This devolution of capability normally out of people's reach will require that the government and the people we need to renegotiate security because people will be as powerful as a World War II corps in terms of individual power. And this individual power's going to be a real problem for us.

The third one, the third determinant I put out is the thing I call - or at least I've heard called - the global straightjacket. Telecommunications, technology, environment, resource stewardship, trade, banking, economics, international law, prosperity and security, it just goes on and on, they're all drawing us closer to closer. And as you get closer and closer our freedom of action is restricted. And it's going to be very difficult for Canada to charter a

course of action outside of that global straightjacket. And as was pointed out earlier, the person who will be putting on the global straightjacket will be our neighbour to the south.

The fourth determinant I'd like you to consider has been called the blurring of boundaries. Now most of our international law is based on the Wesleyan Peace Accord. Most of our military thought is based on Klautzwizian principles and many of our protocols are based on the Geneva Protocols. But they were all designed in the age of nation states when kings and governments had centralized power and there were boundaries that physically could be guarded. All that is blurring.

Likewise there's a huge blurring of definitions. I was at a conference recently where the Americans were speaking of the need for psychological precision in warfare - electromagnetic dominance. We're into surveillance and monitoring of environment. And so there's this huge blurring of things going on and I believe it's going to cause first of all in Canada a raising of anxiety over national sovereignty. The second thing it's going to do, it's going to bankrupt or overwhelm the Department of National Defence because there are just too many roles and tasks and we're going to have to go to the government and say we would like psychological operations to go over there. We'd like infrastructure protection to go over there. Cyber warfare, we can't handle that, will you take it on? There's going to have to be a paring down of our roles and functions, a focussing.

And my fifth determinant I suggest we consider that's going to shape intent is the Canadian economy. Since 1976, approximately 25 years ago, the Canadian national wealth in comparison to the United States economy, has been shrinking at about 2% per year. So in '76 we were 10% and now we're about 5% of the American economy. I would offer that the difference for this wealth gap is the way that the two countries invest. In Canada we invest in people hoping, hoping, whereas the United States invests in innovation. Just to give you a comparison, all public and private investment innovation in Canada is stretching it around about 15 to 20 billion. The United States is about 500 billion to 800 billion. That's a big gap. Now whereas when you invest in innovation you attract people, when you invest in people you don't necessarily attract innovation. And that gap is getting wider and wider and I think it will continue.

Back to my notes. Refocussing public and private investment toward an innovative wealth generating culture is an enormous undertaking that currently does not enjoy public or political support. An economist would observe and deduce that the Canadian economy is very unlikely to support USA-like per capita defence funding or even that of our NATO allies. So I deduce that the high end of combat capability is out of our reach. The ratio of defence spending the United States to Canada as mentioned this morning is about 50 to 1. So we military planners should put down those glossy American brochures and get realistic.

Now those are the determinants. How's it going to shape out into operational capability? I believe that the operational capability will be grouped into three areas. First will be national sovereignty enforcement and so for this Canada would have to have some kind of high surveillance acuity. Now this acuity is not only in the physical domain, it would have to be in the psychological domain, in the electromagnetic domain and the cyber domain. We'd also

have to have the ability to interdict any attacks on those four planes. In the physical plane we might have ships forward or we might have troopers on attack helicopters, assault helicopters to react quickly. In the psychological plane we'll have to develop a psychological defence, electromagnetic planes, some hardening. In the cyber plane we're going to have to get into probably preemptive and defensive cyber warfare. And to keep the navy happy, we'll have manned patrols and reconnaissance.

The second priority, broadly speaking, would be interoperability. I believe that we will have to stay within the US information dominance sphere. Now it's going to cost us to get into it. It means changing our computers and such and getting into their architectures but I think we should do it. It's going to cost us because they're going to ask us well what is your meaningful contribution that allows you into our multibillion information sphere? And also we're going to have to develop a level of trust that may require us to focus some of our alliance commitments around the world. So this broad-based get involved with everybody may not be acceptable.

And the third priority, I calculate that those first two priorities will probably absorb the entire budgets of the three environments so we're probably going to have to go to a new structure as Jim mentioned. And my third priority would be developing stability operations. And here this is I don't think we're going to be first in. We don't have high readiness. We don't have high tech. The Americans, I believe, are going to do whatever major activities are out there and we're going to be coming along in the second echelon.

To do this we're going to have to have a rigorous scrub down of the Department of National Defence, the Canadian Forces, what I call the corporate entities. We're going to have to have a rigorous application of priorities. If nothing applies to the first two priorities then you don't do it. And we're going to have to focus on Canada's global involvement. I don't believe we can go to Africa and Asia and Thailand and Afghanistan and Kosovo and Bosnia. I think we're in about 43 different places right now. We just I don't believe can take a scattergun approach to the world.

Thank you very much for being attentive. I shall await your questions.

Hon. Colin Kenny: Thank you very much, Colonel Marsh. Our next presenter is Mr. David Pratt, MP. Former deputy mayor of the city of Nepean, Mr. Pratt was first elected to the House of Commons in 1997. During the 36<sup>th</sup> Parliament Mr. Pratt was asked by the prime minister to chair the first Liberal caucus committee on foreign affairs, national defence and international cooperation. In 1999 then Minister of Foreign Affairs Lloyd Axworthy requested Mr. Pratt serve as Canada's special envoy to Sierra Leone. He has since written two reports: "Sierra Leone: The Forgotten Crisis" in 1999 and "Sierra Leone: Danger and Opportunity in Regional Conflict" 2001. Following his reelection in 2000 Mr. Pratt was elected chair of the House of Commons Standing Committee on National Defence and Veterans Affairs. In November the committee released its interim report, "State of Readiness of the Canadian Forces: Response to the Terrorist Threat." And this past December Mr. Pratt was named to the newly-formed House of Commons Subcommittee on National Security to examine issues relating to the collection, analysis and dissemination of domestic security

intelligence and foreign intelligence as well as the cooperation and coordination of intelligence agencies. Please welcome David Pratt.

David Pratt: Thank you very much, Senator Kenny. Let me begin by saying what a pleasure it is to be here once again at the CDA conference. This conference does a tremendous amount, as you all know, to stimulate public discussion on some very important defence and security issues. So I'd like to take this opportunity to congratulate all of the organizers, General Belzile, Colonel Pellerin and others here today for putting on a great event.

I certainly appreciate the very different angles from which the previous speakers approached the subject. I'm afraid I'm not going to be nearly as exciting and make the sort of predictions that they have made. From my perspective, however, perhaps the most important factor in determining where we will be going from a defence and security standpoint in the next two decades lies in the assumptions that form the very basis of our defence policy and our force planning scenarios. A number of the planning documents that I've seen sketch out about seven general assumptions that can be made about what the next 20 years may hold. I think it's worthwhile to look at these assumptions in light of September the 11<sup>th</sup>.

While September the 11<sup>th</sup> shocked us to the core, it was not outside of the parameters of what has been described for years as asymmetrical warfare. Inasmuch as we can expect the unexpected it is not unreasonable to believe that there will be some continuity within the unexpected. Let's have a look at some of these assumptions.

The first assumption - and this has been dealt with by some of the previous speakers - is that the United States will remain the dominant military power. Given its unassailable military might in all dimensions, I think it's safe to say that few expect America to soon face a serious challenger. The sheer size of its current defence budget and the apparent willingness to bear increased expenditures suggests that the next 20 years at least will be characterized by a very much unipolar strategic environment. From the perspective of America's allies, this is proving a source of consolation and worry.

Consolation comes from the mere fact that America and its allies are as secure from conventional military threats as anyone could possibly hope. Worry comes from the realization that we will in all likelihood be facing increased asymmetrical threats for which traditional military planning and doctrine offer little in the way of solutions. We can no longer know with any real degree of certainty which nations, combination of nations or non-state actors will pose a threat to our individual or collective security.

Our historical emphasis on planning to meet "traditional threats," that is a readily identifiable foe, needs to be buttressed with the ability to anticipate the capabilities that an adversary might employ. Indeed as a traditional foe, so to speak, becomes increasingly difficult to identify, the emphasis on planning against capabilities becomes more and more important. Thus, while we may not be able to predict who might initiate an attack, we can plan against the methods that might be used.

The obvious corollary to this is that as we plan against the capabilities of others, we will need

to pay careful attention to the future capabilities required of our own forces. Our future capability will be as much dependent on new doctrine, organization, training and education as it will be on hardware. Success in the field will depend on our ability to mount joint and combined operations as required. At the same time, it is important to note that an emphasis on capabilities-based planning does not mean that we abandon our white paper commitment to a combat-capable, multipurpose force. Change may well entail little more than a matter of emphases rather than a fundamental change in kind. But given the reality of combined operations, we may well find that certain assets can be done away with, allowing us to focus on new and essential capabilities.

A further worry for us and our allies is that the Americans may decide to "go it alone." If defence spending among alliance members is not deemed sufficient and if Americans come to believe that they are having to bear a disproportionate amount of risk and expense, then unilateralism may well become the order of the day. The US is moving quickly on restructuring and on development of forward-looking doctrine and standards of interoperability. If alliance members -- (tape change) -- the extent to which we are willing to harmonize our national security with that of the United States.

Many observers and some politicians still cling to the old bromide that any harmonization in this regard will result in a reduction of our sovereignty. At the same time they rarely pause to ask themselves what the consequences might be of not tightening up our domestic security processes. On this issue I find myself in complete agreement with Peter Haydon when he argues that "Rather than being a renunciation of Canadian sovereignty, harmonization of national security policies is an affirmation of sovereignty. Our sovereignty demands that we manage our internal affairs in such a way that situations cannot arise which our neighbours to the south might see as a threat to their security. If Canada is seen as a threat to American security, the Americans will take unilateral action to counter that threat. Hence Canadian sovereignty is served by ensuring that we do not allow anything to happen in Canada that is seen as a threat to the United States."

There are a lot of things one can change in politics but geography is definitely not one of them. Our proximity to the US means that we must work with the Americans on a host of trade, environmental, energy and security issues to name just a few. There is absolutely nothing wrong with admitting that sometimes our best interests lie in cooperation with the Americans. Norad has long been proof of that. A mature state is one that engages its important allies and if we are to effectively engage the Americans, then we need to take homeland defence very seriously.

The second assumption is that Canada will remain engaged in international affairs and require armed forces. Generally I believe that this is a safe assumption. Fundamentally I trust in the basic good sense of the Canadian people to understand where our interests lie and what our responsibilities are. But those of us concerned about defence and security issues cannot afford to be complacent. The spectre of Canada 21 is still very much with us.

There are still those who argue that Canada's contribution to international peace and security should be limited to the odd peacekeeping engagement and even then whatever role is agreed

to should only take place once the fighting has stopped. The proponents of this approach have promoted what I would describe as a cult of peacekeeping. They would like us to believe that peacekeeping and its benign Pearsonian variant is the single most important pillar and distinguishing feature of Canadian foreign policy and the singular most important role for the Canadian Forces. Don't get me wrong, Canadians have every right to be extremely proud of our peacekeeping heritage and I share that pride personally. But the Canadian Forces are not and never must be a one-trick pony. So the suggestion that we do peacekeeping and very little else undermines our ability to make broader contributions to both collective security and international stability. Indeed, in the long run it even imperils our ability to do modern peacekeeping properly.

There are those in this country, and we see them quite often in the media these days, who would prefer that Canada adopt a quasi-neutralist position in world affairs. These people, unfortunately, tend to be rabidly anti-American and see this position as a means to differentiate us from the US on the world stage. They see no need to maintain a fleet of fighter jets or frigates or for that matter any real combat capability. While perhaps well-meaning, these people in my view understand neither the dimensions of peacekeeping nor what constitutes real sovereignty.

Our experiences in the Madac pocket and Rwanda have clearly taught us that to be prepared for peacekeeping means one needs to be prepared for war. Anything less is irresponsible. The Madac pocket showed us how quickly traditional peacekeeping can turn into conflict. Rwanda was an unfortunate though clear lesson of the fact that when international forces become embroiled in domestic conflict they need to be equipped and have adequate complement to be able to fight to protect innocent civilians and prevent genocide. Rwanda hopefully taught the world that the absence of both military capability and political will can be a lethal combination. In this case it produced, as we all know, one of the most horrible slaughters in human history.

So our sovereignty will not be assured by simpleminded notions of Canada as peacekeeper. We have a multilateral tradition that is firmly rooted in support for the concept of collective security. It has been a mainstay of our foreign and defence policy and must continue to be so. Half-baked notions of quasi-neutrality, however disguised and pacifism have never been part of the Canadian creed and I hope they never will be. We ensure our sovereignty by being active and full participants on the world stage by contributing to collective security and by providing adequate protection and surveillance of our own territory.

The third assumption posits that the Canadian Forces may well be committed to operations of mid-intensity warfare. If the past 10 years are any indication, we can readily expect that the CF will be engaged in a wide variety of operations, both joint and combined. These operations will extend from search and rescue, disaster relief, international humanitarian assistance through to higher intensity coalition operations running from peace support through to combat operations. The implication here, of course, is that if we are to engage in mid-intensity coalition operations we will need to structure our military accordingly. This may require a fairly extensive reorganization of the CF into clearly defined domestic and expeditionary capabilities. As Mr. Haydon has argued, force planning for the modern

coalition forces can be likened to a Rubic's cube. The planners have to keep on turning the faces of the cube until they have the desired mix of capabilities for a specific mission.

Having the individual capabilities available and rained means that one can quickly respond to a crisis. However, this requires sophistication in force planning well beyond that done during the Cold War. Aside from being able to quickly respond to crises, a further advantage of modern force planning is that all coalition members need not be able to provide all capabilities. A degree of specialisation is then both sensible and acceptable but the capabilities brought to the table must be completely interoperable and combat-capable. To those who argue that such operational integration constitutes an erosion of sovereignty, I would simply say that they are completely wrong. The right of a state to choose what its military forces will and will not do is the very means by which sovereignty is upheld. Not to have significant capabilities and not to participate simply leaves one marginalised on the world's stage.

The fourth assumption is that Canada will continue to seek security through collective and cooperative efforts, primarily with the United States and other NATO, Pacific and hemispheric partners. Again I would consider this a fairly safe assumption. Yet while we must be alert to the fact that there are forces pulling at the fabric of NATO and the concept of collective security, we are also confronted with a paradox - NATO could face problems if the Europeans refuse to spend enough on defence and at the same time NATO may run into trouble if the Europeans were to significantly increase their defence expenditures. I am sure that many of you would agree that the former is more likely than the latter.

It's no secret that some of our European NATO allies are wary of US power and suspicious of American hegemony. Europeans are developing their own European security and defence policy that they hope will help them forge a greater role for themselves both within the alliance and internationally. It comes as no surprise that France is the greatest champion of the cause. In and of itself this is not a bad thing. Indeed America has long encouraged its European allies to reform and modernize their militaries and to take greater responsibility for matters of decidedly European strategic interest. Of course it remains to be seen if Europe is prepared to pay the cost for a modern, deployable and combat capable military as laid out in the Helsinki headline goals of providing for a 60,000-member force deployable for up to one year.

If Europe is willing to bear the cost, then what? Will a European definition of strategic interests come to significantly differ from that of the US? Might Europeans one day decide that the transatlantic alliance no longer serves their interest? If this should occur, NATO could face some troubled times over the next 20 years. On the other hand, what if the Europeans decide to simply maintain or even reduce current levels of defence spending? Such a scenario could also spell trouble. America, the hegemonic power, might finally decide to divest itself of the expense and encumbrance of an alliance they no longer see meeting their national interests and for which they believe themselves to have paid too much. After all, the US led the Kosovo campaign and maintains large numbers of troops not only in Bosnia but in Europe generally.

Where does this leave Canada? Well, I believe that it is in our best interest to rely on our multilateral tradition and our self-ascribed role as helpful fixer. Since the 1940s successive Canadian governments have actively supported a wide ranging network of multilateral institutions and associations, NATO being one of the paramount ones. I tend to believe that our support for multilateralism, the NATO alliance and coalitions, is one part altruism mixed with two parts realism. The realism is based on the self-interested assumption that international stability can best be achieved if we use multilateral institutions to curb the unilateralism of large powers. From that standpoint I believe that Canada must tailor its defence and foreign policy decisions in a way that ensures that the NATO alliance not only continues to survive but becomes an even more relevant vehicle for peace and security.

The fifth assumption is that Canada will need the independent capacity to assert its sovereignty. For most this is little more than a truism. It is we who need to patrol and protect our exclusive economic zone. It is only by being able to project credible power in these regions that we can hope to properly husband our natural resources. If we do not protect our polar regions, who will? As the polar ice cap melts, the tendency for even our best ally to transit our territory without formal permission might well prove irresistible. In the end, the protection of northern sovereignty requires more than sending bureaucrats to international meetings and the spouting of relevant quotations from international law.

The sixth point is that while the methods of war may change as a result of the Revolution in Military Affairs, the RMA, the nature of war will not. War will always be a dirty business, a very blunt instrument in the conduct of international relations. It is therefore imperative that we provide our troops with the best training available and the resources to do their jobs properly. They willingly accept the unlimited liability of military service. The least we can do is respect that choice and provide them with the best that is available.

As well, if we are to continue to be relevant players, we must remain abreast of the RMA. We need to identify the capabilities that will allow us to interoperate with our allies, especially the Americans. The dictates of homeland defence will present us with new challenges. The trick is to be forward-looking, self-confident and to be willing to take risk.

The last general assumption seen in many of the planning exercises is that there will be no substantial change in the fiscal environment of the Canadian Forces. I am prepared to believe that depending upon how political events evolve, this assumption may be the least valid. We simply cannot predict how international events may unfold to force either a substantial increase or decrease in the funding levels for the Canadian Forces.

A final observation, we must be as prepared as we possibly can to meet the security challenges of the future. What will this mean for us? In large part it will simply mean drawing on our strengths from the past. We have always spent expeditionary forces to fight alongside like-minded allies. We will need to continue to do so in the future. But the new reality also demands that we come to terms with the dilemma of asymmetrical warfare and the doctrine and operational concepts required to deal with it. We must be willing from a position of self-confidence and strength to work with our allies and to determine our relative and comparative advantages. None except one can bring all that is required to the table.

However, the approach we need to take cannot be a minimalist one.

In conclusion, as you can see, I'm not prepared to launch into any radical predictions of where we will be 20 years from now. However, I believe it is safe to say that the next 20 years will be a lot like the last 10 with perhaps a few surprises along the way. The bipolar stability of the Cold War and the doctrine of mutual assured destruction is thankfully gone forever. I think the basic precepts contained in the 1994 White Paper on Defence will serve us well providing there is some period fine tuning and adjustments, especially in the areas of force planning, the RMA and asymmetrical warfare. What is clear to me is that over the next 20 years in pursuing international peace and security, the world will in fact need Canada. What is also clear to me is that Canada will need modern, well-trained, interoperable and multipurpose combat capable forces. Thank you.

Hon. Colin Kenny: I believe the time has come for some questions. We have 10 minutes. I think there's a procedure for people to go to the microphones if they have a question. Yes, General.

Question: Clive Addy. I'd like to ask both Dr. Fergusson and Howie Marsh if they would reflect upon the following just a bit and that is both of your presentations were generated I guess from a concept of a) forces in being and b) projecting force overseas. Do you see a role for reserve forces in your future crystal ball? If so, what would it be? And secondly, do you see the continental responsibility in your crystal becoming more important and in what domain? Thank you.

Col. Howie Marsh: Yes, General Addy. When I said the third priority was stability operations, stability operations are probably the most demanding task in the future because you have to get there, protect yourself, stay for a long time, fight the locals and ironically you need a large tank to control routes. You just need a lot of combat capability to do stabilization operations. Because those operations would last years there would need to be a complementary and supplementary capability which I would think would be best held in the reserves. So yes, there would be a reserve role there.

As far as the continental, yes, it's becoming more important. I just can't see us getting to 20 years being -- one of the things that really scares the Americans is that I think there are six million sea containers on any day exiting the United States and a lot of them come through Montreal and Quebec and Halifax and Vancouver, etc. And it's only a matter of time until some suicide bomber volunteers to sit inside one with a one mega tonne weapon. And so we're going to have to have very good visual acuity, intelligence acuity to find out if that's happening and hopefully intercept it way out in the St. Lawrence Canal and not in the Beauharnois Locks.

Dr. James Fergusson: Very interesting, particularly reserves, very tough question. I know many of you here and many others over the past more than decade or more have grappled with the future of the reserves. I can honestly tell you I haven't really given much thought to the reserves and how it would fit into this equation and a lot of the equation itself that I'm playing with in my mind needs to be further fleshed out so that's a nice sort of caveat. I mean

I used to think that in terms of the issue of what capabilities Canada has given up and I think in this sense we talk about anathema of specialization for the Canadian Forces but the forces have been specialized for a hell of a long time. We've all known it but we just don't talk about it. I've always thought that those core capabilities, and again I have to think in projecting to 2020 which for whatever reasons cannot be maintained in the regular forces that that seems to me -- seemed to me then as a fundamental role the reserves should be playing for those situations when the world does change and the lead-up begins to maintain those core things. I've always thought that that's a more functional role. The problem of course the reserves always face or face right now is that they're engaged too much overseas themselves. The operational tempo for the reserves is much, much too high.

On the other hand, if elements of what I've argued are correct that increasingly we're moving forces away from the forward edge of battle, further and further back to where in fact combat forces personnel can sit in the home country, then the role for reserves can be thought of in a variety of different ways. Weekend soldiers, as they used to be called, can be weekend soldiers because they go to the local central command authority and sit at their terminal replacing regular forces for the weekend doing their functions. I mean again that's only thinking in my head.

The third, and it relates to continental responsibilities, the third point is to take a look at the American model and that is of course the accreditation of national guard units as responders for chemical, biological and nuclear events in the United States. You're going to see more, I think, suggestions that that's what our reserves should be doing. But in terms of continental responsibilities, yes, there will be more continental responsibilities on the government of Canada in cooperation with the United States out of our self-interest, sovereignty, whatever you want to call it. Colonel Marsh's point is one I think we should take seriously. But by and large that's a police problem. That's not really a Canadian Forces function and there's danger getting to play in that function about what it means because if it's a police function it's a gendarme function. And if the purpose is combat capability and you start to push a role in that area, then effectively you will become gendarmes it seems to me. We don't face direct military threats except for the one I think we importantly should be involved in and that's ballistic missiles which is ballistic missile defence which I think is a function we need to seriously consider.

Hon. Colin Kenny: I see Mr. Pratt signalling me.

David Pratt: Maybe if I could just make a very brief comment, I think one of the challenges that we face with the reserves is keeping them interested and motivated and doing things that they feel are very, very important. And I think September 11<sup>th</sup> really crystallized the essential need that we have, and I would disagree with Professor Fergusson on this point, of seamless interaction between the first responders in terms of police, firefighters, ambulance, etc. and the need for the reserves to work very, very closely with them should a major event occur. So I think that's absolutely critical. But I think there are a whole lot of other areas where the reserves can be important in terms of information warfare, those sorts of things, to really get them working on new areas, capabilities that they could use as well to support the regular

forces. Thank you.

Hon. Colin Kenny: Thank you. This microphone here, sir.

Question: Thank you. I'd like to start by congratulating Senator Kenny and Mr. Pratt on the excellent work their committees have been doing. They've been asking some very hard questions, coming up with some good recommendations. I'm Jim Hansen, Canadian Institute of Strategic Studies, also comic relief I guess. Let me give you a bureaucratic look at where we're going to be in 2020 as opposed to by going back 10 years ago when I got out of the army actually.

Ten years ago we had 80,000 in the military in the regular force and a very healthy militia and about 34,000 in the reserves. And 10 years ago we roughly started to reduce the regular force to 60,000 and we're well below that now. We really destroyed the militia and the reserves and we reduced the civil service from about 34,000 to about 20,000. In the same period of time we reduced the number of generals in the forces by about 30%. Yet today we still have one four-star general and 10, compared to nine, three-star generals or flag officers. And we've got one more associate deputy minister than we had 10 years ago and we've got four more assistant deputy ministers than we had 10 years ago. If this trend continues out for 20 years in 2020 the Canadian Forces will be about 200 assistant deputy ministers, 10 three-star generals, a four-star general and the entire defence budget will pay their salaries.

The answer, I think, is to split the headquarters in two and create a proper military headquarters as we had before 1972 and a proper defence headquarters as we had before 1972 and let the defence headquarters do what defence headquarters do, be bureaucratic and let the military headquarters do what military headquarters do which is plan for war. And I would kind of wonder if either of your two committees have been looking at these two possible scenarios for a future way ahead for the Canadian Forces and the Department of National Defence?

Hon. Colin Kenny: David? Our committee hasn't but I understand where you're coming from and I don't think we actually plan to look at that with our next order of reference. Having said that, if we find ourselves participating in the review, we may well look at it.

David Pratt: I don't really have a comment on it but I can say that I think we should understand the problem a little bit better.

Hon. Colin Kenny: Thank you. Yes, ma'am.

Question: Yes, I am a civilian. I'm a pacifist. I would like to ask you what about using civilians if we don't have the money anymore and we don't have the will of the people? The presentation of you people has been excellent but let's not forget that a country and a whole wide world have a lot of people to think and to do something for peace.

Hon. Colin Kenny: Thank you. Dr. Fergusson, it sounds like a question for you.

Col. Howie Marsh: I didn't quite understand the question but I'd like to go to the basics of the philosophy of pacifism. If you believe that peace brings peace I think you're in trouble. If you take the view that justice brings peace, history shows that's more enduring.

Dr. James Fergusson: Could you clarify? I couldn't understand the question.

Question: Yes, I believe what you're saying, Mr. Fergusson, that sooner or later we are going to have a war but on push a certain way. Well, what about civilians? If we cannot have enough people to protect us, are we thinking about that and training our civilians, training our children, training our youth? My father was born in Europe and he went to the first war when he was 17 years old. And I don't believe they are children at that moment. They are very grown up people.

Dr. James Fergusson: Well, I think the answer I would give is that if you look at elements of what I've tried to sketch out of the way warfare is likely to look in the 2020, 2030 or beyond, first of all I would point out that part of the American thinking and what I called the American way of war is in fact moving towards if we think in terms of casualties, in terms of issues of collateral damage, moving towards what I like to call a future scenario of bloodless war, the ability to compel an enemy to do your will, for whatever purposes, without loss of human life - incapacitating rather than killing - both for ourselves and for our enemies. And I think it's something we don't pay a great deal of attention to in terms of when the Americans talk about the Revolution in Military Affairs. Now granted that's down the road and I could list technologies that are being developed by the US to try and deal with this problem.

But I think the real question, if I could go to the second part, the real question I think you're asking is what are the requirements for the future youth, training, etc. We are not going to go to conscription of course but the new technologies, in fact the way this is changing in fact those -- as we see increasingly in the defence economic or industrial side of the sphere where civilian R&D is beginning more and more to drive defence R&D that knowledge technologies are spinning back from civilian into defence under the rubric of dual use technologies. One of the emerging dual use technologies is dual use persons. So the very skills in the civilian workplace, the very skills of education and knowledge can be easily translated it seems to me potentially into defence and security requirements and back. That classic differentiation that we've had I think is going to start to break down. So I'm not sure if I've answered your question but I don't see any great demands for specific training.

Question: Let me put in a more simple way, with satellites around the world everybody can see our backyard. That means everybody knows what is done in each backyard all over the world, okay? Then we have to think on what will happen sooner or later. It has happened on September the 11<sup>th</sup> someone that was unexpected or expected by other way of thinking in another part of the world. And that is what I want to know.

Dr. James Fergusson: My answer to that would be, if I understand you correctly, there's always been an ebb and flow between libertarian and more centralized government authority and regulation in western liberal societies. That ebb and flow will always be there but the fundamental values of western society and as well as other factors which are involved here I

don't see a major concern if you're driving at concerns about human rights and civil liberties. I don't see those occurring because we have too much embedded in the rule of law and fundamental principles to allow that ever to happen and in many ways for anyone to think of doing it.

Hon. Colin Kenny: Thank you, ma'am. Thank you, doctor. I want to caution people that it's not a good idea to accept an invitation to look 20 years into the future. The only thing you know for certain is that you're going to be wrong. If I was going to do a disservice to our presenters I'd say in 25 words or less that what we've heard is that funding limitations are part of the future and they're going to cause specialization. Live with it. Secondly, star wars driven technology is coming sooner and harder than you think. Cope with it. And you're going to see more of the same. Enjoy it. So on behalf of all of you I'd like to thank our three presenters. Dr. Fergusson, Colonel Marsh and Mr. Pratt, thank you very much for interesting presentations today.

Moderator: And to you, Senator, for moderating our panel this afternoon and for taking the time out to be with us. We appreciate it immensely. Thank you very much and to all the panellists again, thank you.