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Chair

Mr. Dan Ruimy

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● (1100)

[*English*]

The Chair (Mr. Dan Ruimy (Pitt Meadows—Maple Ridge, Lib.)): Welcome, everybody, to meeting number 89. Who has the number 89 on their hockey jersey?

Mr. Majid Jowhari (Richmond Hill, Lib.): I have 99.

The Chair: No, sorry, it doesn't work.

Today, pursuant to Standing Orders 110 and 111, the committee will commence consideration of the order in council appointment of Ms. Mona Nemer to the position of special adviser to the Minister of Science, to be known as the chief science officer, as referred to the committee on Friday, October 20, 2017. The committee will be examining the individual's qualifications and competence to perform the duties of the post to which she has been appointed.

We have with us today, Ms. Mona Nemer.

We're just going to get right into it. You have up to 10 minutes to present to us.

[*Translation*]

Dr. Mona Nemer (Chief Science Advisor, Office of the Chief Science Advisor): Good morning everyone.

[*English*]

Thank you, Mr. Chair.

Good morning, everyone.

[*Translation*]

Thank you for inviting me today.

[*English*]

I'm truly honoured to be speaking to you as Canada's new chief science adviser.

As you, I believe in the importance of science and technology to advance our economy and our well-being.

[*Translation*]

In my 10 weeks on the job, I've been quite busy in starting to build this new office from the ground up, as you know.

[*English*]

I like to joke and say that I'm a start-up in government, and I'll let you judge what that means.

As you know, my role is to provide the Prime Minister, the Minister of Science, and cabinet with scientific advice to help make policy decisions. I'll be looking at ways the government can strengthen science and ensure that it's fully available to the public, and that federal scientists are able to speak freely about their work.

[*Translation*]

I firmly believe in the importance of science for society, and I will be a champion for open and accessible science.

[*English*]

I'd like to use my time today to tell the committee a bit about myself, where I come from, and what I bring to this office. I'll also tell you a bit about what we've been doing since September 26, my first day on the job, and the general direction my office will take over the next months.

As some of you may know, I was born and raised in Beirut by loving and hard-working parents. My mother was a schoolteacher and my father was a mechanical technician. They were both very actively engaged in progressive societal reforms. In our family, education and giving back to society were very important.

As a university student, I attended the American University of Beirut. I studied chemistry, because by that time, I realized that I really loved science and I wanted to do something to help other people, like find new treatments to fight disease.

However, soon after, war broke out in Lebanon and studying became extremely challenging. I spent more time, for that matter, in shelters than in classrooms or laboratories. After much contemplation, I left Beirut and came to North America where I completed my undergraduate degree in Wichita, Kansas, of all places. I then moved to beautiful Montreal in 1977 where I did my Ph.D. in chemistry at McGill University.

When I finished my Ph.D., I worked in a biotech start-up. While that was much fun, I realized that if I wanted to do something groundbreaking, I would really need to have a better understanding of biology and physiology.

I went back to train in the burgeoning field of molecular biology and biotechnology. There were very few labs in the world that actually did this kind of work. One of them was in Montreal, where I went, and then later I also completed my training at Columbia University in New York.

By the time I completed my training, which was many years—you can count the years—I did not imagine that my interest in understanding gene regulation would actually lead to a career in academic cardiovascular health, let alone the position that I have here today in front of you. I tell this to the committee because it's important to realize that for many researchers, knowing exactly what you will do after graduation is not a given. When young students ask me for advice on their careers, I always tell them to embrace the opportunities. It's a shared responsibility of educators, institutions, and governments to help prepare our youth for various job opportunities; and I submit to you, some that we cannot even imagine today. It's a responsibility that I have always taken to heart as an educator and academic executive.

I also say this because in a sense it's an analogy for research altogether. Discovery means not knowing in advance what your outcome will be. Yet, the vast majority of discovery research has had significant socio-economic impacts, from technology development to disease prevention and treatment.

● (1105)

Importantly, it's through discovery research, be it basic or applied, that we train tomorrow's workers, innovators, and leaders. It's vital that we support discovery research because without it, there is no talent development, new knowledge, or new innovation.

[*Translation*]

This was something that I learned throughout my career in academia—as a professor, then as a director at the Montreal Clinical Research Institute, and most recently as vice-president of research at the University of Ottawa.

During those years, I had the privilege to interact with bright, dynamic and passionate professors and researchers who cared about their science, their students and their communities. I saw myself as an enabler, a convenor and an ambassador. I am proud of my 20-plus years at the Montreal Clinical Research Institute and at the University of Ottawa, which I believe have prepared me well for my present role.

Canada's science capacity is an immense asset, and better collaboration between intramural and extramural researchers will advance our country's overall science and innovation capacity.

[*English*]

Our biggest global challenges, from health to transport to a safe environment and resilient societies, are complex and multi-faceted. To address these, we increasingly need to work horizontally, across disciplines, across departments, and across sectors. That is what I will do and what I will promote.

What have I done since September 26 and 27? Well, it's been a busy 10 weeks of meetings, public engagements, and outreach, both domestically and internationally. I have met with stakeholders in the science community across the country and abroad.

I can tell you that the science community is very excited about the Minister of Science's and the government's prioritizing of evidence-based policy. In fact, it's not just the science community. I have received almost 1,000 letters and communications from the public and, I would say, at least 200 or 300 from non-scientists. Everybody is excited by my position and by the attention given to evidence-based decision-making. Everywhere I go, they share their enthusiasm for bringing science to the forefront of decision-making.

I have been looking at ways to channel and utilize the enthusiastic support of the community into one of the key elements of my mandate: to promote a positive and productive dialogue among scientists, and with the public both in Canada and abroad. There is very important research being done within the government, and we need to open up channels between our government researchers and those in academia.

I have already begun this process with stakeholders in government and in the post-secondary research community. I have met with my counterparts in the Quebec government and the territorial governments, as well as with the science advisory leaders in the federal government.

● (1110)

[*Translation*]

I have reached out to all of the science-based departments and requested that they provide me with their directives and best practices on how they are helping their scientists communicate with the media. We will assess these practices and recommend guidelines to be adopted by all federal science departments.

I will also be working with the Treasury Board Secretariat to promote a national public consultation on open government, which includes both science and open data initiatives. These are important measures in making sure that science and quality data are freely available to the public.

[*English*]

I have also heard from student groups who want to contribute to science policy-making, and we are looking at ways to integrate them into our processes. I think it's great that our youth are actually re-engaging with the public arena.

In addition to all of the stakeholders I have met with across Canada, I also have reached out to the international science community. The message I took to them is that Canada continues to be open for scientific collaboration, but importantly, what I'm hearing in return is that they're looking to Canada for leadership on several fronts: Arctic research, brain health, regenerative medicine, artificial intelligence, climate and ocean sciences, and quantum information, just to name a few.

In Washington, Boston, Paris, the European Union, Australia, New Zealand, everywhere I have heard the same message: Canada is a partner of choice. Now is our time to lead, I am convinced of it. The global challenges of the 21st century will require global responses, and Canada is very well-placed to lead at least some of those responses. We have the talent, the facilities, the reputation, and the expertise.

I look forward to working with the members of the committee in the weeks and months ahead to promote Canada's leadership in science and innovation.

Thank you, Mr. Chair.

[*Translation*]

I look forward to answering the committee's questions.

[*English*]

The Chair: Thank you very much for your inspirational presentation. We're going to move right to questioning. I want to make sure everybody has time so we're going to start off the first round with five minutes.

Mr. Longfield, you have five minutes.

Mr. Lloyd Longfield (Guelph, Lib.): Thank you.

Thank you, Dr. Nemer, for being with us. It's great to see you again.

I'm excited to see what you're going to be doing with your challenge of bringing science forward, in particular getting data into the policy-making. I spoke with a constituent last night who was very concerned around the boreal caribou herd and wanted to make sure that we were using science in our decision-making. A lot of civil society is saying that we have to watch how we make decisions around the boreal caribou herd. He wants to make sure scientists are at the table when we're having those discussions so that Internet science isn't being used but real science is being used. Could you talk a little bit about how your office can help us to get scientists into these critical discussions such as, let's say, on the boreal caribou herd?

Dr. Mona Nemer: The same question can apply to numerous other areas.

● (1115)

Mr. Lloyd Longfield: Of course.

Dr. Mona Nemer: With the multiplication of sites that promote good science or bad science, real news and fake news, I think it's very important that we have the proper channels. My office right now is looking at developing our work plan actually, but one of the things that we're very eager to do is engage with the public in scientific literacy and also in engaging the scientists increasingly with the public. One of the ways is we're looking at having blogs that will have proper scientifically researched information. Of course, should the government ask us to look at particular questions regarding this or other issues, then we will convene the proper scientific experts and answer the questions.

Mr. Lloyd Longfield: Terrific. Thank you.

I know you're still working on your deliverables, and you're still working on consultations. There's an annual report that's coming forward on the state of federal science. Is that something that you need to highlight at this committee?

Dr. Mona Nemer: As part of my mandate and my personal commitment, I will be providing an annual report that will be made public, and in that report of course we'll address all the issues that we're mandated to address, but also provide information on our activities, and any foresight reports or papers that we would have developed. Yes, as we speak, my office is actually looking at the structure of the annual report.

Mr. Lloyd Longfield: The University of Guelph has a lot of scientists. We work with a lot of government scientists at Ag Canada. The scientists are very excited to hear that you're in place.

One of the questions I get as a member of Parliament is, so now with the Nemer report, is she going to be getting us funding? Could you speak to what your office is and isn't in terms of funding?

Dr. Mona Nemer: Yes. Some scientists have confused me with the Minister of Finance, perhaps.

As a scientist and a vice-president of research, I lived the Naylor report. I contributed to the fundamental science review. I have been quite candid about my support for increased funding in Canada, because the data are there and because of what I told you earlier in my speech, that research is the ground for developing talent, let alone new information.

Certainly, and I've told this to my colleague scientists, my job is not to be a chief lobbyist in government. I have a very explicit mandate stated in the order in council, and when asked about my advice on specific issues, I will provide it.

Mr. Lloyd Longfield: Thank you very much.

The Chair: Mr. Jeneroux, you have five minutes.

Mr. Matt Jeneroux (Edmonton Riverbend, CPC): That's great. Thank you, Mr. Chair.

Thank you, Dr. Nemer, for being here and providing a comprehensive overview of your position.

We often see on the science file that this government has been critiqued that it's more photo ops than actual science. Have you been asked to date to weigh in on any decision by the Prime Minister or the Minister of Science?

Dr. Mona Nemer: I have a close working relationship with the Minister of Science. She has asked for my advice on a number of topics. I have frequent meetings with her.

After my initial meeting with him of two or three hours on day one, the Prime Minister offered to meet with me. I requested that we wait a little for me to get the lie of the land and have something more significant to discuss with him. I'm sure if there had been any emergencies, or if I felt he needed to know something, I would have contacted him or he would have contacted me.

● (1120)

Mr. Matt Jeneroux: You would contact the minister. You would contact the Prime Minister. How do you see that structure working? You essentially report to the Prime Minister, but you're working hand in hand with the minister. You meet with the minister regularly. Do the two of you talk to the Prime Minister? Help us understand that.

Dr. Mona Nemer: As I said, I met with the Prime Minister on day one, and I haven't met with him again, so I cannot tell you who will accompany me. I have worked with other ministers, so I don't want to give the impression that no one else has reached out to me. I have been quite pleased with the reception I have received. Other ministers have also reached out to me. I expect that if specific ministers need to talk to me, they'll talk to me, and if I need to talk with the Minister of Science or the Prime Minister, I will signal so.

Mr. Matt Jeneroux: I want to give you the opportunity to clarify here on an interview you did with TVO. You said you would leave the government to deal with the opposition, I guess alluding to the fact that you wouldn't be dealing with the opposition. You and I have had a meeting. It was great to get to meet you. I hope that continues, that this comment is taken a bit out of context perhaps, and that you do make yourself open to the opposition.

Dr. Mona Nemer: Yes. Thank you very much for giving me the opportunity to clarify this. As you know, you and I had a very enjoyable and productive meeting, and I'm more than happy to have similar ones again with you and other parliamentarians.

I meant that I intend to conduct my business and the business of my office in a non-partisan manner. I don't wish to get into politics. My role is not on the policy side, so if the opposition does not agree with the government on certain policies, I'm not going to be advocating for one or the other. I'm going to be providing unbiased scientific advice. Science is not a partisan matter, and I intend to conduct myself accordingly.

Mr. Matt Jeneroux: Great. I'm glad to hear that.

This is my last question in terms of time in this round. The fundamental science review hit on by my colleague Dr. Longfield calls for the creation of a new national advisory council on research and innovation to provide broad oversight to the federal research and innovation ecosystems.

What are your thoughts on the NACRI?

Dr. Mona Nemer: First of all, I strongly believe in a harmonized and integrated approach to science, research, and innovation. Having a committee that provides advice on the ensemble of the portfolio is something that I certainly welcome, and I think it's in the best interest of the country.

I support having an advisory board. I think it's important to make sure that we're not all stepping on each other's toes and that everybody knows what their own mandate and responsibilities are. I think there needs to be harmonization, because sometimes too much of a good thing is like too little.

The Chair: Thank you very much.

It's nice to see Dr. Longfield got promoted.

Mr. Masse, you have five minutes.

Mr. Brian Masse (Windsor West, NDP): Thank you for being here, Dr. Nemer.

One of the things I thought was nice about your presentation was hearing a bit about your background. In Windsor, where I come from, we have a strong Lebanese population. I think that weaves quite nicely into one of the questions that I have. As an example, we know that right now there are a thousand fewer scientists under the current government versus the previous government. Those positions, the minister mentioned in her testimony, were mostly related to unfilled positions. As well, we have the notion of increasing our capacity, so we have positions available. I'm wondering whether you have a time frame to fill vacant positions and whether there would be an expansion of positions in terms of scientists and government positions.

● (1125)

Dr. Mona Nemer: I just want to clarify that I'm not the chief lobbyist. I'm not the chief recruiter, either, for scientists within government.

I'd just like to respond by saying that I strongly believe in the importance of intramural science. I think intramural scientists play a critical role in our country, be it for evidence-based decision-making, our regulatory processes, etc. Part of my mandate is to review the state of intramural science and to make recommendations. That is something that I will be getting into.

I guess your question is about intramural science.

Mr. Brian Masse: It's about the unfilled positions. It is not just this department. There are others. There are lots of unfilled positions right now. I'm wondering what the priority is on that.

I know that you're supportive of the Naylor report, but obviously, it has to come with the people to be able to do the recommendations that were suggested. For a community like mine, if we're looking at filling those positions, specific to that, what might your advice be? Is there going to be some type of support to, for example, repatriate Canadian scientists from the United States?

I thought your comments were appropriate. There are a lot of people with the credentials from Windsor and the surrounding area who have jobs in the United States who could be repatriated with the proper scientific investment in Canada. Often they come from other countries where, in Canada, their degrees aren't recognized. In fact, even in the medical system, we at times will send Canadians over to the United States to get medical treatment. They will be treated by doctors, nurses, and other health care professionals who aren't technically qualified to practise in Canada, are prohibited from doing so, and we'll pay a premium for it.

Similarly, in the science field, we have individuals and opportunities over in Detroit, Michigan, in the greater area. If we invested in science, for example, at the University of Windsor and other places, we could grow our scientific base. I'm just wondering whether there will be a coupling of that type of strategy to re-employ those scientists.

Dr. Mona Nemer: The University of Windsor is a great institution. In fact, the president of the University of Windsor is a good friend of mine. He's done a tremendous job for the university during his tenure over the past 10 years.

I said on day one that I'd like to do everything to make Canada a global leader in science and innovation. I'm going to work as hard as I can and help as much as I can to achieve this. I think that we have a unique opportunity. Truly, I believe that the international context is very favourable for Canada. We need to all work together to make sure that we have the infrastructure and the support, and we want all expats—and non-expats also—to come to Canada. I think this would be a great opportunity that will set us for the next 50 years as leaders in the world.

Mr. Brian Masse: I agree, and it's great to hear because I think it is a unique opportunity, especially given some of the U.S. policy that's going on right now. It's an opportunity for Canada, and it's going to require a plan, a strategy, and investment.

Since the scientific background is about measuring.... In terms of unfilled positions, but also moving along the lines of the Naylor report's recommendations, will you be measuring the progress in those fields?

Dr. Mona Nemer: This is one of the interesting things about the fundamental science review. It provides us with a baseline. All of us can measure progress, and I sure hope that we'll be measuring upward progress there.

For 11 years, while I was at the University of Ottawa, my aim was to increase the number of scientists, the amount of research and training, and the number of students exposed to research. We've done a good job there. I guess that counted somewhere in my getting the position.

I hope to do the same at the level of the country. I may be romantic, but trust me: I'm going to do my very best to accomplish this.

The Chair: Thank you.

We're going to move to Mr. Jowhari.

● (1130)

Mr. Majid Jowhari: Good morning, Dr. Nemer. Congratulations and welcome to the committee.

As a result of your opening remarks, I developed a good understanding of the role you're being asked to play. You're helping Canada to become a global leader. You helped me understand your focus on Arctic research, neuroscience, and regenerative medicine. You also touched on the large stakeholder group you are engaged with, and you're getting feedback, which all goes towards setting up that baseline you talked about.

In your opening remarks, you also touched on a work plan, and you said your department is working on it. To me, as I have a consulting background, a work plan consists of deliverables, key milestones, key activities, KPIs, and so on. Can you expand on what this work plan means to you, and what we should expect over what time period?

Dr. Mona Nemer: The work plan is exactly what you're mentioning. We've been looking at the mandate and the order in council. There are some specifics stated there. Under each one, we're putting in the steps that need to be taken during the coming weeks. I'm hoping we will have a work plan by the beginning of next year. I've been in this job for less than three months now. We will have a work plan with key milestones and deliverables that will say what we're going to achieve in year one, year two, and so on. This is precisely what we're working on.

It will touch on the different, broad areas that I'm mandated to look after. For example, we will look at our present system of providing advice to government and making recommendations for improvement. Another area has to do with the interactions between intramural scientists, extramural scientists, engagement with the public, and science literacy. These are the broad areas, but within each one there are some specifics that are already part of the order in council.

Mr. Majid Jowhari: From a timing point of view, when should we expect to see the work plan?

Dr. Mona Nemer: Like I said, we're working on the work plan. We wanted to do the consultations. I needed to get briefed on what's going on in government, specifically within government science and the big files. I'm not here to do anybody's work; I'm not here to be redundant. Rather, I'm here to be a facilitator and convenor, so I needed to understand what's going on. To be clear in my answer to your question, you can expect to have our work plan at the beginning of 2018.

Mr. Majid Jowhari: You also, as I call it, opened up and sent a message internationally. You want Canada to be a global leader, but you also invited a lot of researchers and leading scientists in different areas to Canada. I have access to a lot of international students who are doing their doctorates and post-doctorates in Canada, and they understand our culture and how our university and research systems work. What role can they play in helping you and the government achieve your mandates?

Dr. Mona Nemer: Do you mean the international students?

Mr. Majid Jowhari: Yes.

Dr. Mona Nemer: First of all, as members of the committee have probably noted, there has been a significant increase in the number of graduate students coming to Canada. I think that's great for the country. This reflects the strength of our post-secondary institutions and our reputation as a country in the world.

I am very heartened by the reception I received from the students, the international students in particular, in the different places I've been and met with them. As you said, they are very happy in Canada, and they want to contribute. You know what? They tell me that they see me as a role model and as their potential. They want to contribute to the country. They want to be given opportunities to contribute. I think this is so positive for Canada.

● (1135)

Mr. Majid Jowhari: Thank you. I am out of time.

The Chair: Mr. Eglinski, you have five minutes.

Mr. Jim Eglinski (Yellowhead, CPC): Ms. Nemer, I was doing a little research on you. You have very impressive credentials, ma'am. Welcome to the role.

Dr. Mona Nemer: Thank you.

Mr. Jim Eglinski: When you were vice-president of research at the University of Ottawa, you mentioned, back in 2011, I think, in an article or a question that was put to you, "The challenges faced by industry often span several disciplines and require a multi-disciplinary approach; however the current blend of federal and provincial programs suffer from the disadvantage that they are often based in specific disciplines and [don't work] well together." This is what you said.

I noticed that you mentioned that a bit in your speech, that you were going to.... I wonder if you could briefly tell me how you plan on going about that, because there are definitely clashes between disciplines sometimes.

I'll lead into a second question after that.

Dr. Mona Nemer: Historically, disciplines have developed in silos. I'll give you an example. Folks in the manufacturing sector never thought they needed to talk with philosophers, mathematicians, or others. Now all the disciplines are coming together.

When we have programs that are discipline-based, or programs at the federal level that address one part of the bigger picture but not the other, for example, if we address the talent but not the infrastructure, or if we address the infrastructure but not the talent, there is no harmonization among the various levels of government and also other sectors. Industry has as a very important role to play. The private sector has an important role to play, as well as philanthropic organizations.

We all want the same thing. We all want society to benefit. We all want to be happier, healthier, and more resilient, and to have jobs, etc. I think working together is the only way.

I don't know if I have answered your question.

Mr. Jim Eglinski: That's fair.

In reading your mandate letter, after you were appointed chief science adviser, I see that part of your responsibility is "to ensure that government science is fully available to the public, that scientists are able to speak freely about their work", and that scientific analyses and materials are available to the public. I think that's great.

In my riding of Yellowhead, which is central Alberta west, we have an epidemic of pine beetles. They have attacked the forests, coming out of B.C. and into Jasper National Park and the pine forests of western Alberta. We are seeing a reluctance on the part of the federal government, which almost appears to be a conflict between different science groups about how to attack the pine beetle situation. We keep hearing that we are doing science and research, but we are never told what the science and research are.

I'd like to ask a favour of you. Maybe six months down the road, to give you a little time to get settled into your position, you could supply this committee with a report on what has been done in the last two years in science and research on the pine beetle situation, and what has been given to and shared with industry, to get a better concept. It's a very big, important issue in our part of the world.

Dr. Mona Nemer: Thank you for the comment.

I'm sorry about what's happening there. I was also in Manitoba recently and toured our level 4 labs and heard also about some of the problems that we're facing in terms of the environment and the agriculture sector that are due to climate change and other things. As you know, my mandate is to provide the Prime Minister, the Minister of Science, and cabinet with scientific advice. Unfortunately, while I would love to engage with you on these conversations, I would be unable to provide you with a comprehensive report on this. I can certainly try to put you in touch with some of the Alberta scientists or other scientists in the country who may be able to help.

● (1140)

Mr. Jim Eglinski: Thank you.

I'll turn over my last little—

The Chair: That's it. There's nothing to turn over.

Mr. Matt Jeneroux: I have a 15-second question, if we can get it in.

Mr. Jim Eglinski: I'm sure that I had 15 seconds left.

The Chair: I'm sure that Mr. Bernier can share that time with you.

Mr. Matt Jeneroux: Thank you, Mr. Chair, for the floor. Is that...?

The Chair: Quickly.

Mr. Matt Jeneroux: There are 12 of 15 seats on the Social Sciences and Humanities Research Council that are vacant. There are also 80% of the seats on NSERC, Natural Sciences and Engineering Research Council, that are vacant. Has the minister reached out for your advice on the appointments for these positions?

Dr. Mona Nemer: Not yet. There has been reach out for other things, but I've been here for barely three months, as you know. Between getting started and responding to things, I'm sure they'll reach out if they need to.

The Chair: Thank you.

Mr. Baylis, you have five minutes.

[*Translation*]

Mr. Frank Baylis (Pierrefonds—Dollard, Lib.): Mr. Chair, I'm going to share my speaking time with Mr. Fragiskatos.

In your statement, Ms. Nemer, you touched on a very important point when you said it is essential to support discovery-focused research. You even mentioned a few areas in which Canada is particularly strong, such as research on the Arctic, neuroscience, regenerative medicine, and artificial intelligence.

Could you develop your thoughts on this? How do you intend to use this lead Canada has to promote research, particularly in the areas you mentioned?

Dr. Mona Nemer: Canada is strong in certain areas because it invested over several years, not only in discovery, but also in developing talent. Platforms like Google and Facebook are interested in coming to settle in Montreal or Toronto because they know talents are being developed in Canadian universities and colleges that can meet their needs.

You asked me how to make the best of our lead. Well, we can develop a strategy that includes research, enterprises and the development of talent. The development of technology has very important repercussions on legislation. There are very important societal aspects to consider. There have to be round tables and national consultations that will call on all sectors to consider these different aspects.

For instance, we are developing a strategy on the Arctic, as you know. We have begun to put in place a strategy on artificial intelligence. We have to work on each area in turn, and do what is necessary.

Mr. Frank Baylis: Excellent.

[*English*]

Mr. Peter Fragiskatos (London North Centre, Lib.): Thank you very much.

I think it's wonderful to have you here today. The government is very fortunate and, dare I say, Canadians are very fortunate to have you in this role.

Dr. Nemer, I wanted to ask you about the importance of basic research, but I want to do so by asking you your thoughts on how exactly the Canadian population can be galvanized to support basic research and investment in basic research. For me, I think it's communicating the issue in economic terms. When we think about the essentials that people rely on these days in the modern economy, we can't help but talk about the smart phone or the automobile. The smart phone and the technologies used in it, as you well know, are the result of what started as basic, curiosity-driven research. When it comes to cars, air deployment sensors, shatter-proof windshields, and extended-life tires are all the end result of basic research.

If the matter is framed in that way and if a link is tied between basic research and economic development and growth, I wonder if there's something to be said about that kind of an approach when it comes to communicating to the public about the importance of basic research investment.

● (1145)

Dr. Mona Nemer: Thank you very much for the question. It is really critical. We talk about literacy for numbers, and I talk about literacy for science. Literacy for science is really an appreciation of what's behind what you're eating, and what's behind the decisions you're making when you buy a car or a refrigerator with a sticker about energy saving. As to explaining basic research in terms of its impact, I mean clearly we can talk about what physics has given us in terms of the MRI, in terms of diagnostics, in terms of a lot of things that people have had experience with, and I think the public would understand this.

I think what happens often with basic research is the time frame. Are we patient enough to wait for 20 years to see the impact, or for 10 years? This is why a continuous pipeline is really important, because by the time something is ripe for application and we're going to see the benefit, well, we're working on something else that will also be feeding this pipeline and this continuous improvement.

I can tell you that in my own research I've been really fortunate, because in my own lifetime my research has led to applications. This doesn't always happen, but when it happens it's great, right? I don't think I've ever met a researcher who's not eager to have his or her research applied to the benefit of humanity—be it in terms of the technology, best practices, social innovations, or what have you.

The one thing that we always also neglect to talk about is the training. When I started my career, I didn't know that I was going to make any groundbreaking discoveries. I was sure hoping for it. What I was certain would happen is that I would train great people who would be leaders and who might themselves make discoveries. I think this is something that, as a country and as a society, we need to be reminded of constantly: it's not necessarily us or the scientists, but it's the ones they are training, the next generation that is being trained with the basic science, as I mentioned.

Mr. Peter Fragiskatos: Canadians appreciate science, but it's important that they appreciate it even more. So thank you very much.

The Chair: Thank you very much.

We're on a tight timetable and it's going to get even tighter.

Mr. Bernier.

[*Translation*]

Hon. Maxime Bernier (Beauce, CPC): Thank you, Mr. Chair.

Ms. Nemer, I want to sincerely congratulate you on having accepted this position. As a member of the opposition and critic, it is very rare that I congratulate the government on anything, but I am going to do so in this case. I read your biography, and like all of my colleagues, I believe you are a very good choice. I have no questions, but I want to congratulate you and wish you all the best in your new duties.

[*English*]

With that said, I would like to move a motion that you have in front of you for a vote for the committee. The motion reads as follows:

[*Translation*]

> That the Committee review the *Bankruptcy and Insolvency Act* (BIA), *the Companies' Creditors Arrangement Act* and the *Investment Canada Act* (ICA); and that the Committee invite relevant stakeholders to appear before the end of 2017 in order to...

[*English*]

The Chair: Mr. Bernier, I want to make sure everybody gets their copies.

Hon. Maxime Bernier: Okay.

The Chair: Hang in there.

Dr. Mona Nemer: I don't want to be out of order, but while the paper is being distributed, I just want to say this.

[*Translation*]

Mr. Bernier, I am very happy to see you again. You may not remember me, but I remember you very well. You were the first minister with whom I made an announcement when I arrived at the University of Ottawa in 2007. I am very happy to see you again, and I thank you for your kind words.

Hon. Maxime Bernier: Thank you.

I feel old.

I will reread the motion: That the Committee review the *Bankruptcy and Insolvency Act* (BIA), *the Companies' Creditors Arrangement Act* and the *Investment Canada Act* (ICA); and that the Committee invite relevant stakeholders to appear before the end of 2017 in order to provide members with information about the impact on pensioners of companies involved in bankruptcy proceedings such as Sears Canada and U.S. Steel.

● (1150)

[*English*]

What I'm asking of the committee is to vote on that motion. *Merci*.

The Chair: Go ahead, Mr. Longfield.

Mr. Lloyd Longfield: Let the record show that my hands went to my head. I would love to discuss this motion, but I really want to discuss with Dr. Nemer the work she's doing. I think we need time to discuss this motion rather than vote on it. I'd like to find some time in our schedule to discuss the motion. I just can't see us doing it today in the three minutes that we have left in Mr. Bernier's time.

The Chair: Mr. Baylis and then Mr. Jeneroux.

Mr. Frank Baylis: I move that we adjourn the debate.

The Chair: We are voting on the motion to adjourn the debate.

(Motion agreed to)

Mr. Lloyd Longfield: We'll find the time.

The Chair: We are going to move to Mr. Sheehan. Oh, wait. You have....

Hon. Maxime Bernier: Matthew.

Mr. Matt Jeneroux: Thank you, Mr. Chair.

In your comments on page 4, you mentioned that what you're hearing is that they are looking to Canada for leadership on several fronts. The first one you mention is Arctic research, Ms. Nemer. There has been some controversy lately with the pending closure of PEARL up north. Then there was miraculous funding in the eleventh hour to keep that open.

I'm curious as to your role in that. Has the minister asked for your advice on perhaps a next step, for CCAR funding?

Dr. Mona Nemer: I think PEARL is an example of what I would call a major research facility in the country, a unique facility that many scientists from different places in the country can use. We need to get our heads together and really have a strategy for major science infrastructure in the country. Actually, it's one of the recommendations of the fundamental science review, and that's one that I am certainly very eager to get on with. As a scientist and vice-president of research, I know how important this is, and we'll be looking into that.

Mr. Matt Jeneroux: Did the minister ask you if this bridge of funding for 18 months was a good idea or not?

Dr. Mona Nemer: I don't really get involved in funding decisions. The question as to whether we should maintain major science facilities in strategic areas of the country, I think, is a pretty evident one.

Mr. Matt Jeneroux: The transition from the Martin government to the Harper government was a fantastic time.

That's all I wanted to say.

The Chair: Sorry, we're going to move on to the next one. We're very tight on time.

Mr. Sheehan, you have five minutes.

Mr. Terry Sheehan (Sault Ste. Marie, Lib.): Thank you very much for your presentation.

It truly was an honour to be there at Centre Block when your appointment was announced. There was a group of scientists there from coast to coast to coast, and there was a buzz. They were elated to see that this commitment from the platform had happened, and that we were appointing a chief science adviser.

In your role—noting that day and listening to your speech—some of the things you're supposed to do include helping to unmuzzle the scientists and make the scientific data available to the public, which is something we've been studying.

Can you share any insights on how you might proceed in doing that and advising the government?

Dr. Mona Nemer: Thank you. This is a very important question.

Thank you for reminding me of day one. It was a great day in my life, and I'm really humbled by the appointment and the responsibility, and the expectations of the country.

My approach is that by default scientific data should be available to the public. That being said, just making it available to the public is not the end of the story. We talked about science literacy, and the public needs to be able to access it in a user-friendly manner and make sense of it.

I guess what I'm trying to say is it's easier said than done, but we will get to it. Already there is a lot of accessible data, but again it's a matter of really making sure that.... Data storage and access is a very complicated thing.

As I mentioned, I have already asked the various departments about their practices to try to see if we can develop some shared best practices and other issues. Data storage, again, was huge for me at the University of Ottawa. It's huge for all universities. That's something I'm looking forward to working on with the entire community.

● (1155)

Mr. Terry Sheehan: That's absolutely excellent. You've done a lot in a very short period of time. That announcement was recent, so I commend you on that.

Also, in noting that the government has asked you to promote diversity in science and research, right now, as we speak, in my hometown of Sault Ste. Marie, Dr. Roberta Bondar is being put into the Walk of Fame. She was Canada's first woman in space 25 years ago and Canada's first neurologist in space. She's a friend. She always talks about how, when she was growing up, the educational system pushed her away from the sciences. She really had to push herself into the sciences.

As the committee also knows, I have a young daughter who has just begun studying science. What advice do you have for Canada to promote, in particular, young girls and women in STEM?

Dr. Mona Nemer: This is a question that, of course, is very dear to my heart. Throughout my career, I have gone to schools, colleges, and universities and encouraged girls to enter science and engineering and to stay in those fields, because we have a problem of attraction and retention, as well.

I think we have many organizations doing a great job in Canada, and we need to empower them even more.

I think we need to have more role models. Role models matter. They matter for minorities. They matter for women. I can see it every time I'm somewhere in public and the young girls come to me and say how important it is that they see a woman scientist in this position.

As I mentioned to your colleague here, the same thing happens with immigrants and visible minorities. I think that encouraging diversity in visible positions is already a good first step, but it's not the end. We need to maintain the outreach, facilitate all the programs, and be vigilant as well.

The Chair: Thank you very much.

For the final two minutes, we'll have Mr. Masse.

Mr. Brian Masse: Thank you, Mr. Chair.

I hope we can find some time on December 12 to talk about Mr. Bernier's motion on the Bankruptcy and Insolvency Act. I'll be particularly interested in some of the NDP motions related to bankruptcy protection for workers' pensions and their rights in this current legislation that were defeated by the Conservatives. I'll be eager to revisit some of those lost battles that should have been won.

I will use my remaining time to say that the Canadian Centre for Alternatives to Animal Methods in testing in Canada is being developed by the University of Windsor. In general, becoming educated about the subject and finding so much in relation to lost investment, so to speak, from animal testing to treatment for individuals for drugs, and so forth, and the 95% decline in terms of the value when we use animal testing versus biometrics for citizens....

Do you have any thoughts in terms of the value of this, what it could achieve, and where Canada stands in the world? What is your general perception as to what's taking place out there?

Dr. Mona Nemer: Before you can get a treatment for a human being, there are regulatory processes in place that need to be respected to make sure we're administering a safe substance or a safe device. These are the regulatory processes of Health Canada. They involve different stages of testing in vitro, in vivo in lower species than humans, and then other testing in humans. I don't have particular thoughts other than that we need to respect the regulations.

● (1200)

Mr. Brian Masse: I'm not saying we don't respect it, but I guess other countries are moving towards looking away from animal testing in human clinical trials. I'm just wondering where you see Canada's role in that.

Dr. Mona Nemer: One of the great things about tissue engineering, for example, and stem cells is precisely the ability to develop human cells that resemble a human so that you don't need to do these other stages of testing, necessarily. I think this is actually a great avenue and possibility for the future.

As we move more in that direction, I think that as science and technology evolve, our regulatory processes and legislation will also need to evolve, and anything we can do to speed the development and use of new treatments for diseases will certainly be welcomed by me.

The Chair: Thank you very much. That was fantastic. Thank you for taking the time. It's been an honour to have you here today.

On that note, we are going to suspend for two minutes while we go in camera.

[*Proceedings continue in camera*]