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CANADIAN ISSUES
THÈMES CANADIENS

Canada in 2067:
A Nation's Trajectory

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ANIL ARORA

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LETTERS

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BRAVELY IMAGINING WHAT CANADA MIGHT BE LIKE IN 50 YEARS

RANDY BOSWELL

Randy Boswell is an associate professor at Carleton University's School of Journalism and Communication. He is a long-time Ottawa journalist who developed a unique national history beat as a *Postmedia News* writer from 2003-13. He recently published studies about Canadian environmental history in *Histoire Sociale/Social History* and archaeological history in the *Canadian Journal of Archaeology.*

I was born in November 1966. So while I was a babe in arms during the year Canada celebrated its Centennial and hosted Expo 67, my memories of that era are scant, and the only powerful emotional attachment I felt then was with my mother. By the time Canada marked the 150th anniversary of Confederation last year, I'd spent decades living in, writing about and contemplating this country — its present and its past — and come to the firm conclusion that, for all of its faults, there was no better nation on Earth. Attachment to Canada? Off the charts.

And if I live to experience Canada's bicentennial in 2067, I'll probably still feel that way. For one thing, Canada's famous public health system (again, for all of its faults) will have kept me alive long enough to join one of the nation's fastest growing demographic groups: centenarians.

But what kind of country would this 100-year-old Canadian be celebrating on July 1, 2067? Well, according to a recent Statistics Canada population projection, I would be one of about 80,000 people in my age category — but only one of about 15,000 men 100 or older. And depending on whether Canada follows StatsCan's low-growth population trajectory or its high-growth one, the fellow members of my "Century Club" pick-up hockey team will be among the oldest citizens in a country with either 40 million people or something closer to 65 million people.

That's assuming hockey is still a thing in 2067. That's also assuming Canada is still a thing by then. Read on, and you will hear from one of the contributors to this volume that, based on the average life expectancy of modern nation states, Canada as we know it today could well be on borrowed time by the middle of the 21st century.

Still, when it comes to predicting the shape of a nation that far into the future, even the widest margin of error can be too narrow. This country's Bicentennial is a long way off. But let's at least remain hopeful that the landmass known today as Canada will continue to occupy a good portion of a habitable planet still orbiting a sun that hasn't gone supernova.

With that happy place in mind, we asked contributors for this edition of *Canadian Issues/Thèmes Canadiens* to bravely imagine what Canada might be like 50 years from now, or at least what future path the country might be on given the trends and forces in evidence today, and in recent decades. To be precise, we framed the task this way:

> What will be Canada's greatest challenge — or challenges — in the year 2067? As a nation, we've just marked the 150th anniversary of Confederation. That occasion prompted much reflection about our collective history, and about how the achievements and failures of the past shaped contemporary Canadian society. Our most recent issue of *CI/TC*, in fact, explored the transformation of Canada — for women, for immigrants, for Indigenous peoples, for culture, for language, for human rights, for national unity and much more — between the 1967 Centennial and 2017 sesquicentennial. We wish to project that line of thinking into the future, inviting contributors to cast their thoughts forward to Canada's bicentennial year: Where will the trajectory of our history take us?

Put another way, we wondered what a 95-year-old former prime minister named Justin Trudeau, when reflecting in 2067 on the state of the country both he and his father once led, might say are the paramount concerns for the people of Canada? Would the greatest challenge be the economy or the environment, intercultural or interprovincial relations, technological or demographic change, domestic or foreign affairs, or some looming challenge we can barely glimpse today on the horizon of the future?

To stimulate thinking about the realm of possibilities, we shared the results of a recent nationwide survey commissioned by the Association for Canadian Studies in which more than 1,500 respondents were asked to rank what they thought would be "the principal challenges facing Canada fifty years from now, in 2067."

The results of that probe are extensively explored here in a contribution from ACS president Jack Jedwab. In short, concerns about aging and health, as well as economic challenges such as employment and home ownership, significantly outstrip all other issues — the environment, national security, cultural identity — as anticipated problem areas. It's no surprise, perhaps, that the top-ranked concerns closely match what are typically the most pressing contemporary sources of anxiety; as Jedwab notes, "the natural inclination" of respondents appears to be "to transfer current preoccupations onto the future."

Pollster Christian Bourque also examines survey results illuminating Canadians' concerns — and imaginings — about the future. Among the intriguing results was a top-ranking response among three-quarters of those polled that citizens of the country will be more environmentally conscious when Canada turns 200. Meanwhile, at the lowest end of the rankings, just 57% of respondents envisioned a nation in which people will be more conscious of gender equality — and more than one-quarter of those surveyed pessimistically expect less consciousness of gender equality in 2067.

Dr. Monica Boyd, a distinguished University of Toronto sociologist and demographer, highlights two of the most significant changes we can expect to see in the structure of Canada's population in the next 50 years: the general transition to "a country of older persons" as the proportion of Canadians aged 65 and older soars from today's 17% to more than 25% by 2067; and the particularly dominant place of today's Millennials in that future Canada, as this "unique birth cohort" — the children of the digital age — redefine what it means to be a senior member of Canadian society.

Western University sociologist Don Kerr, a specialist in examining population change in Canada, puts the country's expected population growth by 2067 into a global perspective, noting that the few tens of millions of people likely to be added to Canada's population over the next 50 years will be "swamped" by what occurs in much more populous countries around the world, where even the lowest projections mean at least another one billion citizens of planet Earth by 2067. With regards to climate change and other environmental implications, Kerr argues

that regardless of Canada's own energy-transition strategies and population pressures, "what happens elsewhere will be of major consequence to Canadians as they approach their bicentennial year."

Former Ontario cabinet minister John Milloy, director of the Centre for Public Ethics at Waterloo Lutheran Seminary, raises an alarm in his essay about the coming epidemic of loneliness facing Canada. Milloy, who served as provincial minister of colleges and universities as well as community and social services (among other portfolios) during his time as a Liberal MPP between 2003 and 2014, warns that contemporary symptoms of social isolation and alienation — from the smartphone bubbles inhabited by so many, to the existential struggles of churches and other traditional sites of social cohesion and community — may be harbingers of even more worrisome problems as Canada's population ages in the decades leading to 2067. To combat rising loneliness, argues Milloy — who also served as a senior adviser to prime minister Jean Chrétien — "government will need to work alongside groups that connect people and build interdependence, such as volunteer groups, business and community organizations and faith communities, all of which create a sense of belonging."

Economist William Watson, the high-profile newspaper columnist and long-time McGill University professor, states that while the Canada of 2067 is essentially unknowable and prediction is folly, "I do suspect — I think I know — that my children and theirs will still be concerned with three problems that have preoccupied the country since its beginnings": Canada's relations with the U.S., the state of affairs between the country's French- and English-speaking populations, and the never-ending

quest of all Canadians to earn a decent living. "Not just because I'm an economist, I'm reasonably sure material matters will still concern our own grand-children," Watson concludes — while adding that, beyond such few certainties, "it's all unknown unknowns as far as the eye can't see."

This edition of *Canadian Issues/Thèmes Canadiens* offers two question-and-answer articles flowing from interviews with two notable thinkers about the country's present and future. Irvin Studin, president of the Toronto-based Institute for 21st Century Questions and a leading international policy analyst, discusses the contentious question of Canada's ideal population as we head towards the country's 2067 bicentennial. Studin helped spark a national debate about Canada's population by advocating for a nation of 100 million people to help Canada better command its own vast geography and to more robustly assert its influence on the world stage. "There are a whole host of other things we can accomplish economically and socially with a larger population," says Studin, who also commented that the average lifespan of a modern state is only about 60 years, and that our 150-year existence so far is "exceptional" in global terms. "There will be a host of challenges, to be sure, but I hope we will be well on our way (to 100 million by 2067) and there won't be any debate by that point that we'll need a larger population to reckon with our circumstances."

Finally, Canada's Chief Statistician Anil Arora — whose agency compiles and analyzes the contemporary information about Canada's population, economy and society that allows even the faintest glimpses of the future to be rooted in reality — discusses how Statistics Canada is modernizing its operations to ready the nation for its future in a data-driven world. Even as StatsCan celebrates its 100th anniversary in 2018 as heir to the Dominion Bureau of Statistics, the federal agency (armed with a new mandate aimed at ensuring its arm's-length independence) is in the midst of transforming itself to sustain its world-leading reputation in an era of global concerns about data collection and its socially responsible application. "For a statistical agency," states Arora, "these are pressures and opportunities that are impossible to ignore. Our modernization efforts are to react to those pressures, which are very real — and, by the way, not unique to Canada."

A TRIBUTE TO A PIONEERING FIGURE IN CANADIAN DEMOGRAPHY: RÉJEAN LACHAPELLE (1945-2018)

The death of Réjean Lachapelle on April 28, 2018 was a shock to the community of Canadian demographers and to all of his colleagues and friends at Statistics Canada. He was 73 years old.

During his career as a demographer, Réjean Lachapelle contributed significantly to measuring, under-standing and projecting the characteristics of the Canadian population. As a specialist in demolinguistics, he introduced several concepts that are still used today in the study of behaviours and language dynamics in Canada. With his extensive knowledge and reputation in this area, Réjean had a significant influence on public policy and public debate about language in Canada. In addition, he contributed significantly to Statistics Canada's census programs and population estimates.

Born in Montreal in 1945, Réjean Lachapelle studied anthropology and demography at the Université de Montréal. His master's thesis, presented in 1971, was entitled *Demographic Study of Canadian Marriage*. He then continued studies in population, genetics and epidemiology in Paris with, amongst others, the famed Albert Jacquard.

Back in Canada, he worked as an assistant professor in the Faculty of Medicine at the University of Sherbrooke, before holding various positions as a researcher and analyst within the Quebec government, including with the Ministry of Immigration and Cultural Communities. He joined Statistics Canada in 1984, accepting a proposal from then-Chief Statistician Ivan P. Fellegi, where he pursued a successful career as director of the demolinguistics division and went on to become director of the demography division.

Réjean Lachapelle also held a number of positions within the Canadian community of demographers. He served as president of the Quebec Association of Demographers from 1976 to 1977 and was president of

the Canadian Federation of Demography from 1990 to 1993. He was also one of the key contributors to the World Population Congress of the International Union for the Scientific Study of Population that was held in Montreal in 1993. After retirement, he continued to serve on the Demosim Scientific Committee, Statistics Canada's microsimulation projection model, the Advisory Committee on Statistics and Demographic Studies, and Statistics Canada's recently established Statistics Canada Advisory Committee on Linguistic Statistics.

A veritable force of nature (he twice recovered from cancer over the last twenty years), his erudition and the extent of his knowledge in demography, in many scientific fields and on many societal issues were impressive and made him a model for so many to follow. Always smiling, endowed with an unusual sense of diplomacy and a great degree of kindness, Réjean Lachapelle possessed a remarkable sense of humour that made all contact with him so enriching and enjoyable. His presence is already missed by his many colleagues and friends.

Laurent Martel, director, Demographics Division, Statistics Canada
Jean-Pierre Corbeil, assistant director, Division of Aboriginal and Social Statistics, Statistics Canada

STATSCAN LOOKS TO THE FUTURE: 'PRESSURES AND OPPORTUNITIES THAT ARE IMPOSSIBLE TO IGNORE'

A CONVERSATION WITH ANIL ARORA

Anil Arora is Canada's Chief Statistician and the head of Statistics Canada, the key federal agency tracking the social and economic characteristics of the country — and a vital institution for envisioning Canada's future. In recent years, controversies over the previous Conservative government's decision to scrap the long-form census and the current Liberal government's strategy for centralizing information technology in Shared Services Canada prompted Mr. Arora's two predecessor chief statisticians — Munir Sheikh and Wayne Smith — to resign their posts. Mr. Arora assumed leadership of StatsCan in September 2016 after serving in senior management positions with Natural Resources Canada and Health Canada between 2010 and 2016. Earlier, between 1988 and 2010, Arora had held a variety of positions at Statistics Canada, eventually serving as director general responsible for all aspects of the 2006 census, and as assistant chief statistician of social, health and labour statistics from 2008 to 2010. In 2018, Statistics Canada marks the 100th anniversary of its birth — the May 1918 founding of the Dominion Bureau of Statistics. Mr. Arora spoke in mid-May with *Canadian Issues/Thèmes Canadiens.*

Q: Tell us about what's planned to showcase StatsCan's 100th anniversary this year.

A: We started off a few weeks ago with the Governor General (Julie Payette), who came in and addressed the entire institution… We're showcasing the importance of this institute both domestically and internationally by highlighting some of its achievements, some of its firsts, some of its history, some of its leaders. Every single month, we're trying to get people to take pride in what an important democratic institution and world leader Statistics Canada is…

We're modernizing, which is why this institution is world-leading, because it's always looking at where it comes from, where it is and — knowing the winds and changes in demographic, technological and other factors — where it needs to be. It's not only a year to celebrate the journey that we've come from. It's a turning point for us for a number of reasons. We have an amended, strengthened Act (Bill C-36)

and we've got a fairly substantive modernization agenda that we're launching…

Q: Could you elaborate on the mandate change and the modernization?

A: Bill C-36 received royal assent on Dec. 14, 2017… The first big change is that in law now there's a differentiation between the role of the Chief Stat-istician and the role of the government/minister through which Statistics Canada reports to Par-liament. Essentially it separates the *what* from the how. This is an agency that lives and dies by it being relevant to the changing and evolving needs of this nation — its economy, its society, its environment, you name it… So it's entirely reasonable for the gov-ernment to ensure that the agency is at the table, involved in policy discussions, involved in even the initial scoping and forward-looking agenda items. And then, there's the how. How we go about pro-viding good, high-quality, timely data, and how we communicate to Canadians the operations of this agency based on professional statistical standards, is now — in law — the purview of the Chief Statis-tician.

Q: If the present Act – the new Act – had been in place when controversy erupted over the Con-servative government's scrapping of the 2011 long-form census, would that have unfolded in a different way?

A: Yes, I think it would have made very clear and transparent who made the decision and why it was being made, and then the accountability would have essentially lie where it ought to lie. By con-vention, we've operated as an arm's length institu-tion. Now, even if there is an exception to that, that

would be very clear… It also establishes a Canadian Statistics advisory council in law, with an obliga-tion about the advice it gives the Chief Statistician or the minister, and to publish an annual report. This is another body in the check-and-balance, and for transparency. The other change is in the term and conditions around the tenure of the Chief Stat-istician — (the appointment is) no longer 'at the pleasure' of the government, but it would be for a five-year renewable term.

Q: Tell us about the modernization agenda.

A: We're an institution that essentially has its roots in survey-taking. You can go back to 1666, when (New France's intendant of justice, police and finance) Jean Talon took the first census here in Canada, around Montreal. We have hundreds of surveys that we've undertaken. We then started to bring in administrative sources of data to supple-ment and in some cases to substitute for surveys where it makes sense. (Editor's note: for example, income data is not collected via census survey but via tax files).

If you look today, you've got your Fitbit, your fridge, your thermostat (and other data sources). Then there is so much regulatory/administrative data being harnessed. There's so much information people provide over the Web. Look at, today, this explosion of data that is coming at us from all sorts of different sources. And juxtaposed with that is the need for far more (understanding of) complex inter-actions between social phenomena. For example, what are the implications of housing on health? Or the crowding conditions in a household on a child's educational outcomes and even their life expect-ancy? All of a sudden, the kinds of questions that

are coming at us are getting more sophisticated and sharper. And if we've only got limited resources to spend, where would they be best spent to get the best outcomes? And I don't know if you've got kids, but my kids aren't going to sit and give you a survey response for a half an hour. Forget it. If it doesn't fit on their iPhone screen and part of something fun, they aren't going to do it. So, there are a number of changes happening…

And that's not to in any way negate people's strong concerns for privacy and confidentiality protection. They want it all. You only want to be bothered (to give information) when it's absolutely necessary and perhaps the least amount of burden. They want us to actually harvest the information that we already have, at the same time protecting privacy and confidentiality. There's this explosion of data; on the other hand, you've got the real sophisticated need for timely information – almost real-time information. People are saying: 'Why are you giving me statistics from a month ago, or a year ago or – God forbid – three years ago? I want to know what's happening today.' Or if a government brings in a policy, they want to know the next day what is the implication of that policy, so they can adjust and tweak.

So, for a statistical agency, these are pressures and opportunities that are impossible to ignore. Our modernization efforts are to react to those pressures, which are very real — and by the way, not unique to Canada. (Editor's note: Arora heads a working group on the modernization of official statistics for the 60-nation Conference of European Statisticians under the auspices of the United Nations).

In Canada, I've launched a five-pillar moderniza-

tion approach. We need to be far more user-centric; we're a national statistical agency, in law, given the mandate to coordinate, integrate, un-duplicate and look at data that exists out there across the system. We have a legal obligation to protect the privacy and confidentiality (of Canadians). We need to use novel methods and technologies that exist today. Crowd-sourcing is an entirely acceptable and reasonable way for us to get information in real time; web-scraping to get at things like prices and how they're changing over time is entirely reasonable – using scanner data instead of sending people to retail outlets to get at what the (consumer price index) might look like. I could keep going on and on — (another example:) harvesting the mountains and mountains of regulatory and administrative data that exist…

We are not the only game in town – we know that. We're going to have to share and collaborate with those who are producing and disseminating data and information. We are going to have to build the numeracy and literacy skills that are going to be necessary in this context today of the data-driven society and economy. We need to make sure that there's responsible production and use — and informed use — of good data, and knowing where the limitations are and knowing where the biases might reside in various data sources (and) the quality gaps… That's really important as we get into artificial intelligence and machine learning algorithms and so on…

The last pillar, and perhaps for us in the agency the most important one, is a modern workforce in a modern workplace. We can't have the kind of technology and flexibility (we need) if we can't get people to get out of their cubicles and talk to their

colleagues. Like I said, housing is related to health which is related to income which is related to so many other factors. If our people can't get around and talk to others and access data and keep it confidential and move around, then we are not going to attract the expertise and the talent. We are going even beyond that. We're working with partner institutions – the universities and colleges out there… to make sure that data literacy, numeracy skills, good data management are part of their curriculum. And we think we even need to go beyond that to the K-12 system, so that as people graduate (from high school) they have these basic skills that are going to be critical going forward.

Q: How does StatsCan become an even more data-driven organization while making sure it doesn't have too much data about each and every one of us?

A: For 100 years, this is what we've been doing. We're the best in the world at taking two pieces of data collected through different sources with identifiable information (and figuring out) how you bring them together, how do you anonymize them, how do you link them and then get at the insights. This is what we do day in, day out. We're the world's best at those kinds of methodologies. The privacy commissioner has said essentially that this is the gold standard.

Q: What happens to that every-five-year head count? If information about Canadians can be collated from administrative and other sources, will the census possibly no longer happen?

A: A very interesting question, obviously… Can we see, one day, us moving to a synthetic or real-person register?… This is what happens in Scandinavian countries, and in many European countries, where every individual is given a unique identifier and that's how the system then is tracked. But that's not something a statistical agency would impose upon Canadians. But (if a system like that was in place), and we had, then, the authority to go in and keep it up to date, and nurture it with other pieces of information, then certainly we could see one day where we could substitute going to Canadians to ask that information. But that's not a decision for the statistical agency to make on its own…

The second thing to that is that even in our short form, we ask a number of questions other than just simply your name and date of birth and your gender. We also ask the language questions, etc. For some of those questions, it's not clear yet where we would get the equivalent amount of information. I still think that some form of going out and getting information from Canadians in a cost-effective way is still going to be there for quite some time.

I essentially was the leader of the 2006 census where we redesigned the whole mechanism by which we take a census in Canada. Many other countries have leveraged on that methodology since then… Now we don't even mail out questionnaires to the majority of Canadians – we send them a letter with a code. And in this last (2016) census, just under 70% of Canadian households filled out the questionnaire online. Plus, we have always continued to find the most cost-effective way to get that kind of information. So, in that equation, we also have to look at the overall cost-effectiveness of getting information. Information needs continue to grow. Every census, when we go out to consult — you won't believe — we get at least a thousand

new topics where people want us to ask a question of Canadians. If truly the appetite for information from Canadians is insatiable, we have to look at what is the best mechanism to get that. The census kind of fulfils a need.

Q: What do you think will be the biggest difference between how information is collected and used now and how it will be in 2067?

A: We're really talking about a crystal ball here. But let's look at those faint signals out there that could potentially be the predominant forces. We are seeing the next generation putting a lot more value on that quid pro quo — that value proposition (between gaining insights from data and protecting personal privacy). They're willing to give a little to get a little. We all do that, too — e.g. online banking.

I do see a day when, instead of us putting information out that says, 'Look we were able to give the correlation between an overcrowded house, the income of the family, and the education, health and income-earning outcomes,' as a *nice-to-be-able-to-do* (analysis), to really where the population is going to say, that is the expected (analysis)…

Just like the technology of ride-sharing (e.g. Uber) or accommodation services (e.g. Airbnb), business models have evolved around data essentially being the currency, and even shaking traditional institutions and businesses. I think that will just accelerate over time. I think governments will be challenged with their traditional roles. (*Editor's note: Arora referenced here the Sidewalk Labs-led redevelopment of part of Toronto's waterfront in a new private-public model for designing urban neighbourhoods*).

I think it's raising questions about what is the role of government. I see those kinds of models are challenging institutions, whether academic or government… That's why I think our modernization plans are going to be so important for us to be able to look at those (challenges) and make sure we are adding value. It's now moving less to production (of raw data) and more to the expertise and analytics, being able to communicate and being able to explain.

ENVISIONING A MORE POPULOUS, COMMANDING CANADA — IF IT SURVIVES

A CONVERSATION WITH IRVIN STUDIN

Irvin Studin is the President of the Toronto-based Institute for 21st Century Questions, and Editor-in-Chief & Publisher of *Global Brief* magazine. He has been called one of the leading international policy thinkers of his generation. Studin has been a professor in leading universities in North America, Asia and Europe. Studin is the co-founder of Ukraine's Higher School of Public Administration (Kiev). His latest book is *Russia – Strategy, Policy and Administration* (Palgrave-MacMillan, 2017), and his forthcoming book is *Ten Theses on Canada in the 21st Century.* He worked for a number of years in the Privy Council Office in Ottawa, as well as in the Australian Department of the Prime Minister and Cabinet in Canberra. For years, he has argued that Canada should strive to become a country of 100 million people by the year 2100, kickstarting a national debate on the question. He spoke recently with *Canadian Issues/Thèmes Canadiens.*

Q: You've held out a compelling vision of Canada as a country of 100 million people by 2100. By 2067, depending on how things go, we'll have moved our population from the present 36 million to something closer to 100 million. How far do you think the country should be towards that goal, and why?

A: There are two ways of looking at the 100-million argument. And it's not set in stone — it could be 80 million or 120 million. If I had my druthers, we'd be well on our way in both respects: one is the metaphorical respect, which is just as important as the second, the policy respect. The metaphorical idea is that Canada begins to think, kinetically, like a country that's on its way toward 100 million – to think

much bigger, much more capaciously, to develop a national imagination of itself as a major country that sets out, as a term-setter, to do major things for itself and also for the human condition — in what promises to be a much more complex century for us as a country. I should say just as a proviso that I hope we're around as a country in 2067. That's also not self-evident. Countries aren't around forever…

In terms of policy, let's say we're a country of 60 million or 70 million by the year 2067. (At 100 million, we'd be the second biggest country in the West – smaller than the U.S. still, but bigger than any country in Europe, with the exception of Russia.) I think, other things being equal, we'll be able to

accomplish many more things as a country — across our territory and internationally. But also, we'll be able to properly fend for ourselves in the context of far greater geopolitical pressures. We're already feeling the birth pangs of these greater geopolitical pressures, with what's happening in the United States. If you look at Canada as a bit of a box geographically, the bottom border is "A" — the American border — the "E" is Europe, east of Newfoundland. Those are well known to us. But there are two other new borders this century that are less appreciated, and which will exert great pressure on us over the course of the coming decades. The first one is "R", which is Russia, over the fast-melting Arctic. And we have only 115,000 people populating all three northern territories — pitifully low if we are going to imagine ourselves controlling the northern border, or even exerting our sovereignty, our national interest there. We're going to have many more people there. And moving towards the 60 or 70 million by 2067 will certainly help that. And I imagine a lot of them are going to go to the north. Whether we realize it now or not, we're going to need a lot more people there. And the final side is the "C", which is China – Whitehorse is much closer to China than Sydney, Australia. So too is Prince Rupert. China is now a force that we've never really felt in modern Canada. For the whole 150 years since Confederation, China was destabilized and trying to find its feet after its defeats in the Opium Wars. Now they're back to where they think they should always have been, and we're going to have to reckon with them, in all the dimensions of national strategy and policy. And we're very close to them, and so you're going to see huge northwest influx of demographic pressures.

So we're going to need more people in this beautiful country, and I think we'll be in a better place, in net terms. And there are a whole host of other things we can accomplish economically and socially with a larger population. There will be a host of challenges, to be sure, but I hope we will be well on our way (by 2067) and there won't be any debate by that point that we'll need a larger population to reckon with our circumstances.

Q: Some people raise concerns about a greater population, and specifically the integration of immigrants, so perhaps you could address that. And picking up on another point, what do you think are the likely threats to Canada's existence by 2067?

A: There are plenty. Countries don't last as long as we think they do in modern history. I had one of my graduate research assistants calculate that a modern state over the last 200 years tends to last an average of about 60 years. The Soviet Union was thought by many of its citizens to be interminable. It lasted only 70 years. Canada's been around for 150. Many of the modern Middle Eastern states have been crumbling, and they've generally been around for that quantum, about 60 or 70 years. A good number of Asian and African states are quite new. All of the post-Soviet states are inherently unstable. Ukraine just had a revolution and then annexation, so it only lasted 23 years… So Canada is unusual and exceptional, having had both strategic and constitutional stability for about 150 years. We're pressing our historical luck. What could change? Well, the threats are external and internal. The internal one, for now, seems obvious: the Quebec question. If Quebec should ever go, I think I've been one of the leaders on the public record in saying that's the end of Canada, because we will not be able to stitch this

thing back together. Canada would fall apart very similarly to how the Soviet Union fell apart – into many constituent parts. We don't know what those parts would be called, but it would be exceedingly difficult for Ottawa to reassert the old legitimacy on Victoria and St. John's, and Yellowknife and Whitehorse in the north, with the excision of one of the central parts. That could happen very quickly and at any time over the coming decades — so that's always something to watch and manage.

The second domestic challenge to watch for is the constitutional contradiction between the "two nations" idea of Canada at Confederation — English and French Canada — and the idea that all of a sudden we're going to resuscitate Indigenous peoples into co-equals in the governance of Canada. Morally, it's attractive, but strategically and constitutionally, it will be very difficult to engineer…

Externally, there are real threats. If there's a major war between Russia and Western powers, I think there's a big chance that Canada in this century would be invaded. Same with China. We are no longer very far at all from these countries and civilizations in technological terms, or in psychological terms. The Arctic is melting. If we don't have proper relations with all of these major border countries, and if we also have an unstable, capricious or inconstant southern neighbour to our south, as is the case today, who will defend us? The U.S. may defend us, or they may not — we may not know until the 11th hour. For now, such thinking is not generally part of our strategic imaginary, but we must realize that we are now surrounded by great powers at all our borders — including the European powers. We don't know how stable or happy these powers will be in the future, or how they will relate

among themselves. That's going to put a lot of pressure on us. And we may well survive. But we're going to have to think like a bigger country, at a higher standard, if we're going to make it through the century unscathed. I've been writing about it for a decade, but I would say the American presidency with Trump really puts all of this into relief. And certainly the conflict between Russia and the West, and the brewing tensions between Washington and Beijing, also make the stakes very stark, if we Canadians have a proper appreciation of our geography and work from the right mental map. In other words, a conflict between America and China, or America and Russia, puts us right in harm's way, with no absolute guarantee of protection. Right now, we neither can imagine that scenario in which we are actually threatened, nor can we imagine ourselves actually being able to do anything about it.

This is really, I would say, part of the 100-million construct. We're going to need to think for ourselves. 100 million is Canada thinking for itself…

Q: What kind of a country do you think we have to evolve into in order to confidently embrace so many more people? And how does this relate to the "colonial" mindset you've discussed in your writing?

A: The colonial or quasi-colonial mindset is in the present, too, not just in the past. We shouldn't feel insulted when I say that. We all bathe in the same water—myself happily included. In strategic terms, we have a quasi-colonial mindset because we've never really broken out of it and never had the pressure to break out of it. Short of a major national crisis or war, we would need to have a sustained mental revolution, or policy revolution rather than a revolution against the Crown or against our de

facto imperial neighbours or cousins… We can absorb a huge number of people over time. I don't think there's any question that, territorially, we've got plenty of room. If we distribute the population much more deliberately across the country — I really do believe in proper, choreographed distribution of the population. We're very passive in this respect now, but over time we're going to have to be much more deliberate. I mentioned the northern flank — a whole northern immigration strategy for Canada would seem to be naturally coming before long…

As for integration, we'd be very naïve to think the country can absorb anyone from any place at any pace, and that nobody should blink because that would be racist. I don't think that's true at all. We should be very deliberate about how we choreograph the look and feel of the country. At the same time, we should be distributing the population and getting talent from around the world — there are no contradictions there, but we have to be very careful, because outside of Toronto, the majority-minority dynamics are very sensitive in many regions of the country – starting, of course, with Quebec…

Of course, it would still be an entirely multicultural country — with at least two nations, or maybe multiple nations given the Indigenous question. But Canada would have a much more distributed population, with highly multi-ethnic big cities all over the place. And, by the way, there would be new big cities by that point. We don't know whether Toronto will be the major city by 2067. But there will definitely be new cities, some of them new big cities. Take the north, for instance. You can imagine a city like Whitehorse all of a sudden having a couple million people – same with Yellowknife. Because

we're going to need about 10 million people in the north over the course of the next 60 or 70 years to manage that huge space.

CANADA 2068: UNKNOWN UNKNOWNS, SQUARED AND CUBED

WILLIAM WATSON

Born and raised in Montreal and educated at McGill University in Montreal and Yale University in New Haven, Connecticut, William Watson taught at McGill from 1977 to 2017, serving as Chair of the Department of Economics from 2005-10 and Acting Chair in 2016-17. He is best known for his regular columns in the *National Post* and the *Ottawa Citizen*, and for his appearances on radio and television. From 1998-2002 he edited *Policy Options politiques*, the magazine of Montreal's Institute for Research on Public Policy, where he is currently a Senior Research Fellow. He is also a Research Fellow at the C. D. Howe Institute in Toronto. While on a leave from McGill in 1997-8, he served for 21 months as editorial pages editor of the *Ottawa Citizen*. He was the 1989 winner of the *National Magazine Awards* gold medal for humour for a piece in *Saturday Night* magazine about a trip to New York. His book *Globalization and the Meaning of Canadian Life*, published by the University of Toronto Press, was runner-up for the Donner Prize for the best book on Canadian public policy published in 1998. He writes twice weekly in the *Financial Post* and once a week for the *Fraser Institute Blog*.

In February 2002, U.S. Secretary of Defense Donald Rumsfeld was lampooned by many people not nearly as smart as he for his trifurcation of all knowledge into: things we know (or at least think we know), things we know we don't know ("known unknowns"), and things we don't know we don't know ("unknown unknowns"). In fact, it bespeaks wisdom and humility that were tragically lacking in his department's invasion of Iraq one year later.

What do we know about the world in 2068? We have a decent idea of the number of people 50 years and older who will be alive, barring nuclear, environmental, biological or other disaster. We

at least know the upper bound on the numbers of such people, since they have all been born by now or very soon will be. Is there much else we know? Fifty years is not much more than half the expected life of a typical Western newborn, yet for prediction it remains a very long time. Over half a century, unknown unknowns dominate, thus limiting the usefulness of forecasting or even speculation except perhaps as entertainment.

Consider the Canadians of 1867. There were just 3.5 million of them, a tenth what we are now. Their life expectancy at birth was 41.6 years, which means Canadians born on Confederation Day couldn't

reasonably expect to see their country's 50th anniversary in 1917. Their incomes, though respectable internationally, were what we once would have called "third world," barely $1,500 in the purchasing power of the U.S. dollar of 1990. (In 2010 in that currency, the average Canadian income was $24,941, fully 17 times higher.) Canadians' average formal education in 1867 was 5.7 years. The previous year, 1866, 257 of them had graduated from university (compared to more than two million enrolled in university in 2015/16). Only 107,225 Canadians — Montrealers — lived in a city of more than 100,000 people. Almost 90% lived on farms or in towns of less than 5,000. The majority were farmers or agricultural workers living by the rhythms and dictates of temperature and rainfall. They feared invasion by Fenians based in the U.S. or indeed by the U.S. itself, which had just survived a bloody civil war in which the British Empire would have preferred a rebel victory or at least a stalemate. For the fathers — all fathers — of the new Confederation, getting from Quebec City to Charlottetown three years earlier had taken three and a half days by steamer. Travel to the Pacific coast colony of British Columbia, a potential entrant to the new Confederation, took weeks or months. On July 1, 1867, the first successful transatlantic cable, joining Ireland and Heart's Content, Newfoundland, was not yet 11 months old.

Could those Canadians of 1867 have imagined that just 50 years later they would be nine provinces and eight million strong? Their per capita incomes would be 2.6 times what they had been 50 years earlier? And fully 500,000 of them would be in Europe fighting alongside the Americans in a war even more terrible than the U.S. Civil War? Could they have foreseen that some soldiers in this war would bombard the enemy *from above* from within flying machines they could guide to their targets? That military commanders many miles apart would talk with one another through copper cables, while other soldiers would fight on land in horseless vehicles powered by a "refined" version of black sludge pumped out of the ground? To observe the 100th anniversary of Canada's income tax — which might also have seemed unimaginable in 1867 — I read the parliamentary debates on the bill to introduce an "income war tax" (as it was known until 1949). Canada was still very British in 1917. MPs made frequent reference to U.K. events, personalities, laws, institutions and even poetry in full confidence that the other men listening — only men in 1917 — would understand the context and references. Another recurring debate had to do with the problem of how to pay for the country's second transcontinental railway, which was heavily indebted but, like the CPR that had preceded it, could move Canadians across their country in just days.

In their turn, could those Canadians of 1917 have imagined that in 1967 their children and grandchildren would already be 22 years on from another world war of even greater horror and extent than the one they were living through? Or that it would have been ended by super-bombs embodying the power of many days' bombardment in the worst battles of their own Great War? The Canada of 1967 was a country of 20 million, two and a half times what it had been in 1917. Per capita GDP was now $12,050, 3.1 times its level 50 years earlier. Flying machines could get Canadians, who now lived mainly in cities, each with at least one "airport," almost anywhere in their country in just hours. Six days before Centennial Day, by a miracle of the "space age," up to 700 million people watched "Our World," a live, two and a half hour international "television"

collaboration featuring Marshall McLuhan, Maria Callas, Pablo Picasso and, most famously, a British musical quartet with the strange name of "Beatles," who introduced their song *All You Need Is Love*. Many viewers knew that within as little as 24 months' time they might see an American astronaut walk on the moon and return to Earth.

As for those Canadians of 1967, could they have imagined the world we now live in, just 50 years later? Speaking as one of them, I can say, emphatically, "No!" In 1967 I wrote my high-school term papers on my father's Smith-Corona portable typewriter, a mechanical stamping machine that made use of a carbon-impregnated ribbon to impress black or red letters onto paper. By contrast, I am writing this "paper" (we still call them papers) on a "laptop computer," which is one of five computers I own, not counting the one I carry in my pocket, with which I track weather and news in real time, trace my tracks up and down ski hills, and talk or exchange "text messages" with people anywhere on the globe. (In 1967, if you saw someone walking along the street talking to himself you looked the other way: Now it happens all the time: He's not crazy, he's just on his phone.) Until the 1940s a "computer" was a person who did mathematical calculations for a living. The economist Milton Friedman served as one for the U.S. government during World War II. Though by 1967 most people had heard of electronic computers, only governments, businesses and institutions owned them. My own experience of them began two years later in university. I interacted with the machines by using a kind of typewriter to punch holes in cards, each of which represented a "line" of "code," and then taking my cards over to the computer centre, where the room-sized machines were stored, and giving

them to the attendant, who would return them to me the next day, along with a print-out of whatever the computer had calculated at my request — once I finally got the request into a form it could understand. Like most people then, I believed computers would improve — they had improved markedly in the previous 20 years — but I had no idea how much.

Could the Canadians of 1867 have imagined the Somme, the federal income tax and a four-day trip to British Columbia? Could those of 1917 have imagined television, jet travel and rockets to the moon? Could the Canadians of 1967 have imagined the ubiquity of powerful computers and communication? Yes, in principle, they could have. Did they? No, no and no. Maybe a solitary eccentric here or there predicted something that wasn't totally dissimilar to what eventually came to be. But there was no way of distinguishing inspired forecast from lunatic fantasy and it would have been folly to base any important public policies — or anything at all, really — on such confabulation. So I don't see much point worrying about what Canada, if it survives, will be like in 2068.

On the other hand, I do suspect — I think I know — that my children and theirs will still be concerned with three problems that have preoccupied the country since its beginnings. The first is relations with the United States, which had much to do with Canada's founding, were still important in 1917, just six years after the 1911 reciprocity election, remained crucial in 1967, two years after the Auto Pact, and are still paramount today, as a mercantilist president tries to reverse the trade strategy the U.S. has pursued since the mid-1930s.

Relations between French and English in Canada

have also been part of our history since Confedera-tion and before. If the proportion of French speakers in Canada continues to decline, it may become less central, but so long as francophones are concen-trated in one province, the threat of its secession and therefore the need to manage these relations will continue.

Finally, how to earn a living has preoccupied our species, let alone our nation, since each began. In 1930, with typical cheekiness, John Maynard Keynes predicted in "Economic Possibilities for our Grandchildren" that, despite that era's debilitating depression, these grandchildren would be so rich that material needs would no longer concern them. That does not seem to have happened, even in a country where real incomes, as best they can be compared across eras, are approaching 20 times what they were in 1867. Not just because I'm an economist, I'm reasonably sure material matters will still concern our own grandchildren.

Apart from these three enduring problems, it's all unknown unknowns as far as the eye can't see.

CANADA 2067: GENERATIONAL, REGIONAL AND LANGUAGE DIFFERENCES APPEAR WHEN IDENTIFYING FUTURE PRIORITIES

JACK JEDWAB

Jack Jedwab is the President of the Association for Canadian Studies and the Canadian Institute for Identities and Migration. He is also Chair of the National Metropolis Conference. Holding a PhD in Canadian History from Concordia University, he taught at Université du Québec à Montréal and McGill University. He has taught courses on the history of immigration in Quebec, on ethnic minorities in Quebec, on official language minorities in Canada and on sport in Canada. He has also authored essays for books, journals and newspapers across the country, in addition to being the author of various publications and government reports on issues related to immigration, multiculturalism, human rights and official languages.

Canada's 150th anniversary is now behind us. The anniversary gave rise to some reflection about 150 years of accomplishments and failures. But for the most part, Canadians engaged in what might described as a stock-taking of where things currently stood and to a lesser degree how things might evolve in the years ahead. Statistics Canada offered projections to 2036 that pointed to the continued changes to the composition of the population and the growing importance of the share of persons of non-European descent. Otherwise, there was not considerable speculation about what Canada's future might hold.

Nobel Laureate Nils Bohr once remarked that "pre-diction is very difficult, especially if it's about the future." That's true. And to be fair, given the difficulty in predicting the impact of technologies on our lives, accurate forecasting is increasingly a challenge. Of course, that doesn't prevent us from asking about the future. In this edition of *Canadian Issues/Thèmes Canadiens*, we chose to inquire into what Canadians think the country's priorities will be in 50 years as Canada commemorates the country's 200th anniversary.

To determine how Canadians envision future priorities, the Association for Canadian Studies commissioned the firm Leger Marketing to ask them to rank some 14 concerns by selecting the top ones

in order of importance (the precise question was as follows: Please rank in order the issues that you think will be the principal challenges facing Canada fifty years from now, in 2067). The survey of 1,501 people was conducted online between Oct. 10-14, 2016 with a probabilistic margin of error of 3.9 points, 19 times out of 20.

It is important to note that when asking citizens to project ahead, their responses tend to reflect the things they currently regard as most important to them. The data presented below analyze the priorities selected first by Canadians. Undoubtedly, many of the concerns are intertwined. As such, an effort is made to group the 14 issues listed into the following five categories: social, economic, security, environment and identity.

That which follows offers breakdowns for priorities based on age cohort/generation, language of origin and province of residence. The difference in the selection of priorities often reflects the way in which the issues are understood and framed. In other words, several social and economic concerns are clearly related, but someone may choose to articulate them differently depending on how and by whom such things are interpreted for them. These distinctions are not without importance.

CONCERNS IN 2067

When situated within 'our' selected categories, most Canadians frame their biggest concern as social, with the economic preoccupations landing second on the prescribed list. Thus, the concerns that are expressed can be described as generic or global and, in that regard, not specific to Canada. As we'll observe, there are important age/generational as well as linguistic and regional differences. The concerns around the group of issues that get situated within the category labelled "identity" are chosen by about one in 10 Canadians.

TABLE 1

	Total
Social (Aging and Health)	32
Economic (Employment Opportunities, Owning a Home, Reducing Poverty and Cost of Education)	26
Protecting the Environment	14
Security (Terrorism and Conflict with other nations)	10
Identity (Immigrant Integration, Preserving my language and culture, Relations with Canada's Indigenous Peoples, Accommodating Religious Diversity)	11

CHART 1
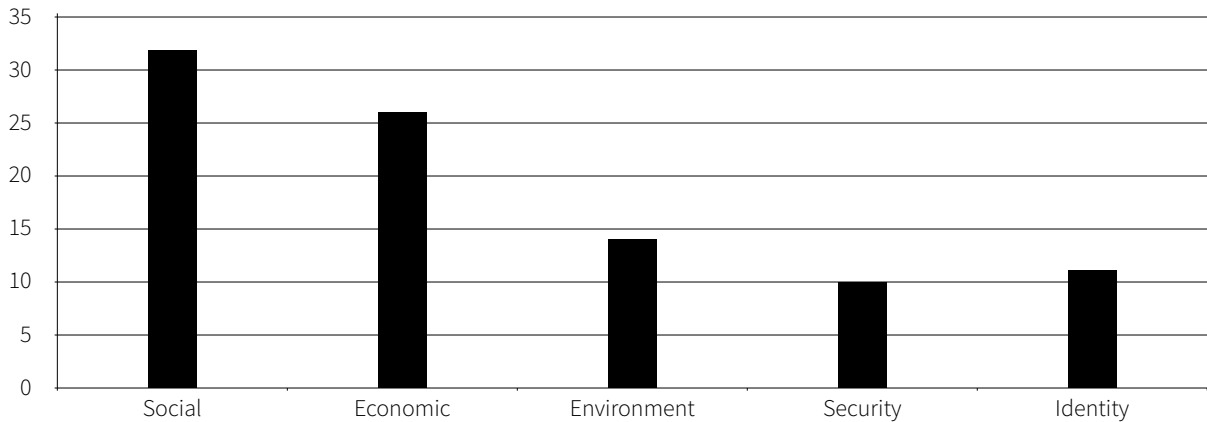
When extracting the specific items that fall within categories, it is observed that concerns about the aging of the population is the number one choice across the plurality of responses that are offered by Canadians. Access to health care is second, with the protection of the environment third. A variety of identity issues are cited on the lower end of the priorities. A distinction might be made between what might appear to be "perpetual" concerns (ones that seem less easy to resolve) as opposed to those that are "punctual" (ones that seem cyclical).

THE AGE/GENERATIONAL DIVIDE

In examining perceptions on the basis of age/generation, the three groups below have been identified for purposes of analysis:

Born: 1946-1965 Boomers

Born: 1966-1976 Gen X

Born: 1977-1994 Gen Y or millennial

As observed in the data, the biggest difference in the priorities chosen by Millenials over Baby Boomers is the relatively lesser consideration they assign to social issues (aging and health) in marked difference with the importance they attribute to economic matters. Indeed, the Millenials assign a similar level of importance to environmental concerns as they do to social ones. All this in stark contrast with the importance that the Boomers attribute to social matters, which is nearly 25 points greater than that of Millenials.

On nearly all the issues, the generation Xers fall somewhere between the Millenials and Boomers. They are closer to the Boomers on the social concerns while somewhat closer to the Millenials on the economic ones.

TABLE 2

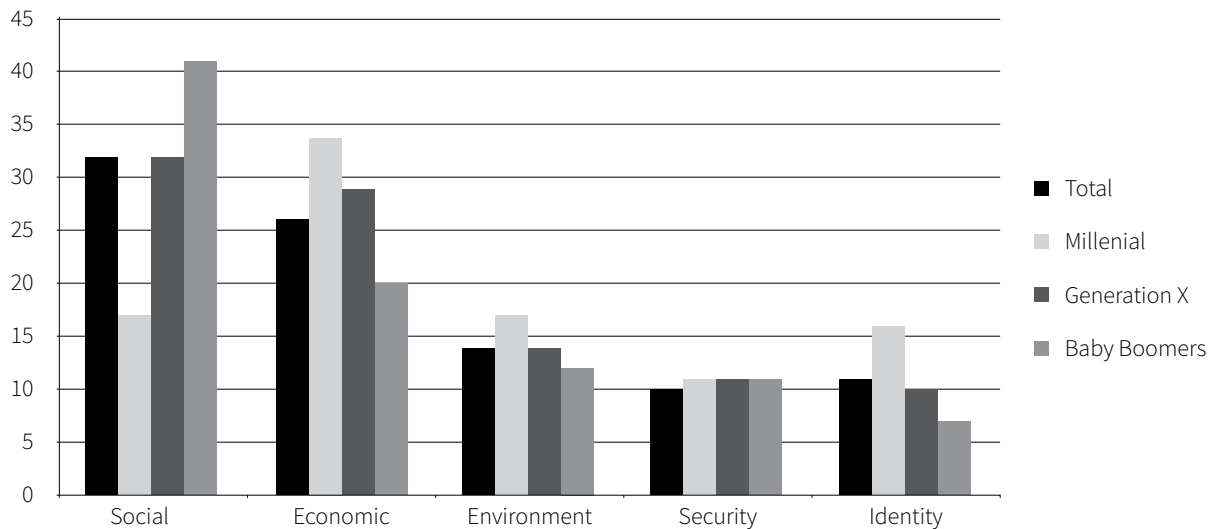|	Total
Aging of the Population	17%
Access to Health Care	15%
Protecting the Environment	14%
Employment Opportunities	11%
Owning a home	7%
Terrorism	7%
Reducing Poverty	6%
Immigrant Integration	4%
Preserving my language and culture	3%
Conflicts with other nations	3%
Relations with Canada's Indigenous Peoples	2%
The cost of post-secondary education	2%
Meaningful Participation in our Democracy	2%
Accommodating Religious Diversity	2%

CHART 2

TABLE 3

	Millennial	Gen X	Boomers
Demographic (Aging and Health)	17	32	41
Protecting the Environment	17	14	12
Economic (Employment Opportunities, Owning a Home, Reducing Poverty and Cost of Education)	34	29	20
Security (Terrorism and Conflict with other nations)	11	11	11
Identity (Immigrant Integration, Preserving my language and culture, Relations with Canada's Indigenous Peoples, Accommodating Religious Diversity)	16	10	7

When looking at the specific items chosen on the basis of the age/generational breakdown, it is observed that younger Canadians are less concerned with population aging and access to health care than others. They are more concerned about environmental protection and home ownership.

LANGUAGE DIVIDE

When it comes to language background, the social concerns are most pronounced amongst francophones, who put them well above the economic considerations. For anglophone Canadians, the social and economic concerns are roughly equal. For their part, the allophones put the economic concerns on top while appearing much less preoccupied by the environmental future.

When looking at the specific issues on the basis of the linguistic background of the survey participants, it is observed that there are significant gaps between francophones and allophones on such things as environmental protection and employment opportunities. Francophones also tend to cite the preservation of language and culture to a greater degree than do others. Yet with 7% of respondents putting it first on their list of priorities, it doesn't rank as high as issues classified as social and economic. This does not imply that francophones do not regard the preservation of language and culture as vital. A recent Leger-Association for Canadian Studies survey revealed that nearly six in 10 francophones were worried about the next generation abandoning their language and culture (18% were very worried and 40% were somewhat worried). Overall, some 42% of Canadians were worried about the next generation abandoning their language and culture. As important as such concerns

TABLE 4

	Total	Millennial (18-34)	Gen X (35-54)	Boomers (55 +)
Aging of the Population	17%	17%	11%	23%
Access to Health Care	15%	15%	6%	18%
Protecting the Environment	14%	14%	17%	12%
Employment Opportunities	11%	11%	13%	8%
Owning a home	7%	7%	10%	6%
Terrorism	7%	7%	7%	8%
Reducing Poverty	6%	6%	6%	5%
Immigrant Integration	4%	4%	6%	2%
Preserving my language and culture	3%	3%	3%	3%
Conflicts with other nations	3%	3%	4%	3%
Relations with Canada's Indigenous Peoples	2%	2%	3%	1%
The cost of post-secondary education	2%	2%	5%	1%
Meaningful Participation in our Democracy	2%	2%	2%	2%
Accommodating Religious Diversity	2%	2%	4%	1%

CHART 3
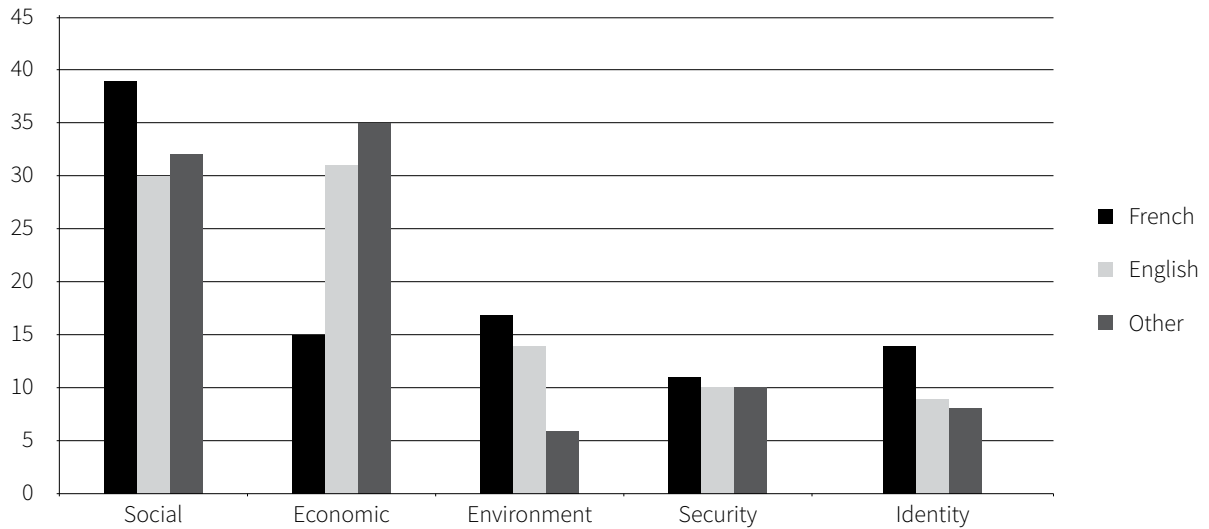
TABLE 5

	Total	French	English	Other
Social	32%	39%	30%	32%
Protecting the Environment	14%	17%	14%	6%
Economic	26%	15%	31%	35%
Security	10%	11%	10%	10%
Identity	11%	14%	9%	8%

are when standing on their own, in terms of relative importance, they are outweighed by people's social and economic considerations.

REGIONAL DIFFERENCES

When considering the views of the provinces and regions, the social concerns are most often expressed in Atlantic Canada and Quebec. For their part, the residents of Manitoba and Saskatchewan chose social over economic concerns, whereas British Columbians, Ontarians and Albertans choose economic over demographic considerations. Environmental concerns are more likely to be selected in Quebec and British Columbia. Security concerns get somewhat more traction in Alberta, as do issues of identity in Quebec, Manitoba and Saskatchewan.

TABLE 6

	Total	French	English	Other
Aging of the Population	17%	21%	16%	15%
Access to Health Care	15%	18%	14%	17%
Protecting the Environment	14%	17%	14%	6%
Employment Opportunities	11%	5%	13%	17%
Owning a home	7%	2%	9%	7%
Terrorism	7%	10%	6%	8%
Reducing Poverty	6%	6%	6%	8%
Immigrant Integration	4%	4%	3%	5%
Preserving my language and culture	3%	7%	2%	0%
Conflicts with other nations	3%	1%	4%	2%
Relations with Canada's Indigenous Peoples	2%	1%	2%	1%
The cost of post-secondary education	2%	2%	3%	3%
Meaningful Participation in our Democracy	2%	0%	2%	2%
Accommodating Religious Diversity	2%	2%	2%	2%

CHART 4
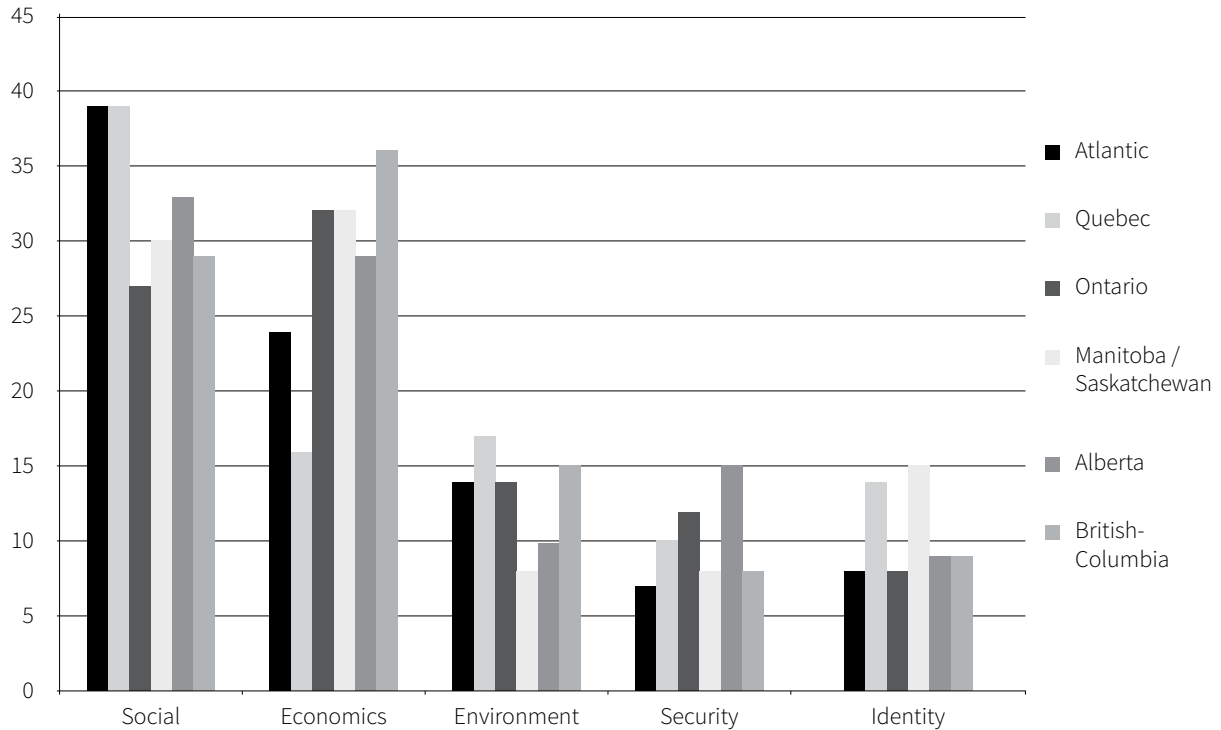
TABLE 7

	Total	Atlantic	QC	ON	MB/SK	AB	BC
Social	32%	39%	39%	27%	30%	33%	29%
Protecting the Environment	14%	14%	17%	14%	8%	10%	15%
Economic	26%	24%	16%	32%	32%	29%	36%
Security	10%	7%	10%	12%	8%	15%	8%
Identity	11%	8%	14%	8%	15%	9%	9%

TABLE 8

	Total	Atlantic	QC	ON	MB/SK	AB	BC
Aging of the Population	17%	23%	21%	14%	10%	22%	15%
Access to Health Care	15%	16%	18%	13%	20%	11%	14%
Protecting the Environment	14%	14%	17%	14%	8%	10%	15%
Employment Opportunities	11%	11%	6%	14%	9%	16%	11%
Owning a home	7%	7%	3%	9%	8%	9%	12%
Terrorism	7%	7%	8%	7%	5%	12%	5%
Reducing Poverty	6%	4%	5%	6%	10%	4%	10%
Immigrant Integration	4%	2%	4%	3%	6%	5%	3%
Preserving my language and culture	3%	3%	7%	2%	0%	4%	3%
Conflicts with other nations	3%	0%	2%	5%	3%	3%	3%
Relations with Canada's Indigenous Peoples	2%	0%	1%	1%	5%	0%	3%
The cost of post-secondary education	2%	2%	2%	3%	5%	0%	3%
Meaningful Participation in our Democracy	2%	2%	0%	2%	0%	2%	2%
Accommodating Religious Diversity	2%	3%	2%	2%	4%	0%	0%

Turning to the specifics, population aging resonates to a greater extent in the Atlantic, Quebec and Alberta. Owning a home is a slightly greater concern in B.C. than elsewhere. Environmental protection is cited more often by Quebecers, while Ontarians are a bit more inclined to select employment opportunities as a concern than are respondents from other provinces.

CONCLUSION

Albert Einstein stated that he never thinks of the future, as "it comes soon enough." Indeed our survey results suggest that when asked about future priorities, the natural inclination is to transfer current preoccupations onto the future and not take into account the type of change that might occur and result in a shift in the importance of things to come.

THE AGING OF THE POPULATION AND GENERATIONAL SHIFTS: CANADA 2067

MONICA BOYD

Dr. Monica Boyd is the Canada Research Chair in Immigration, Inequality and Public Policy and Professor of Sociology at the University of Toronto (St. George). Trained as a demographer and sociologist, Dr. Boyd researches the changing family, gender inequality, international migration (focusing on policy, immigrant integration and immigrant women) and ethnic stratification.

If the Fathers of Confederation were to reappear in 2067, they would be dumbfounded by the demographic transformation of Canada. Many population features that existed in 1867 are gone. This article highlights two of these changes: the transition of Canada as a country of young people to a country of older persons in which approximately one-quarter of the population will be age 65 and older; and the existence of groups that are distinctive by virtue of when they were born, particularly the baby boom generation and the new millennials. This latter cohort, born between 1981 and 2001, will predominate in Canada's older population at the country's bicentennial.

A MUCH OLDER POPULATION IN 2067

The age composition of a country is important for economists, sociologists and demographers alike. Economists think of a nation's productivity and consumption as reflecting the labour market activities of a population, and they usually define the core ages as 15-64; their productivity underlies the services and benefits provided to those under age 15 and to those 65 and older. Sociologists also agree that labour market activities are important because certain positions, such as a Supreme Court judge, signify status, and shape social relationships. Labour market activities also generate income that in a monetarized society can be used to buy products and services (food, shelter, health and education) that improve well-being. For population experts, the age composition (or alternatively, the age distribution) is important because demographic behaviours such as having children or migrating (and dying) vary with age, and because groups of people who are born during specific years form birth cohorts who themselves age and cause later changes in the age profiles of a society.

Information on the ages of a population combine with the numbers of men and women to produce an age-sex pyramid that shows the dramatic alteration of Canada's age composition since Confederation times (Figure 1); the middle column gives the age of the population and the side bars indicate the year of birth, according to the 2016 census of population. The red line for 1871 shows the age-sex pyramid by ages of the 1871 population. The red line indicates that Confederation occurred at a time when most Canadians were young; according to Statistics Canada data for this figure, seven out of 10 in Canada were under the age of 30, with 42% under the age of 15. This triangle-shaped age-sex pyramid is found in societies with very high fertility rates; this was true for Canada at Confederation, with women on average having nearly seven children around 1871 (Henripin 1972). Fertility, not immigration was the main driver of Canada's population increase between 1861-1901; even though migrants were and remain important additions to Canada's population, social fabric and economic strengths, more people left Canada during that 40-year period than entered (Chagnon and Martel 2012, Figure 1).

In 2067 the Fathers of Confederation would encounter a different world in which mature adults, not children, predominate. The age-sex pyramid for 2016 resembles a beehive, or a traditional haystack. The shape reflects fertility declines during the 1900s — but especially from the 1970s on — along with lower levels of mortality. Today, because fertility is so low, having children does not add large numbers to the base of the population pyramid and thus the age distribution moves away from a large concentration of young people. In 2016, slightly more than one in three (35%) are under thirty years

of age, or to state the reverse, close to two-thirds are aged 30 and older. Whereas young children dominated Canada at the time of Confederation, today it is mature adults or those who are older.

This "aging" of Canada's population can be seen by comparing the two age-sex pyramids in Figure 1, but it also is evident from percentages aged 65 and older (Figure 2). In the 1871 census, less than 5% were age 65 or older; in 2016 the percentage was 16.9 percent. Significantly, those aged 85 and older were among the fastest growing segments, reflecting increasing life expectancy as a result of better sanitation, public health services, medical advancements and diet throughout the 20th century (Statistics Canada 2017a).

These hallmarks of an aging population will continue up to, and well beyond, 2067. This legacy of today's age profile exists because those who will age and become older are already born. Experts suggest that by 2063 (a scant five years before the 2067 bicentennial) around one–quarter (between 24 to 28%) of Canadians will be age 65 or older and approximately one in 10 Canadians will be aged 80 or older (Bohnert, Chagnon and Dion 2015, Table 2.4)

GENERATING GENERATIONS AND THE MILLENNIALS IN 2067

Births, deaths and migration are considered to be the determinants of population growth and the age-sex composition, but these factors are not constant. Levels can steadily or erratically change; a downward drift can be countered by an upward trend at a different time. These "bumpy" paths, in fact, are what happened in Canada, particularly with respect to fertility. As a result, Figure 1 highlights several

FIGURE 1
AGE-SEX POPULATION PYRAMID, CANADA 1871 AND 2016
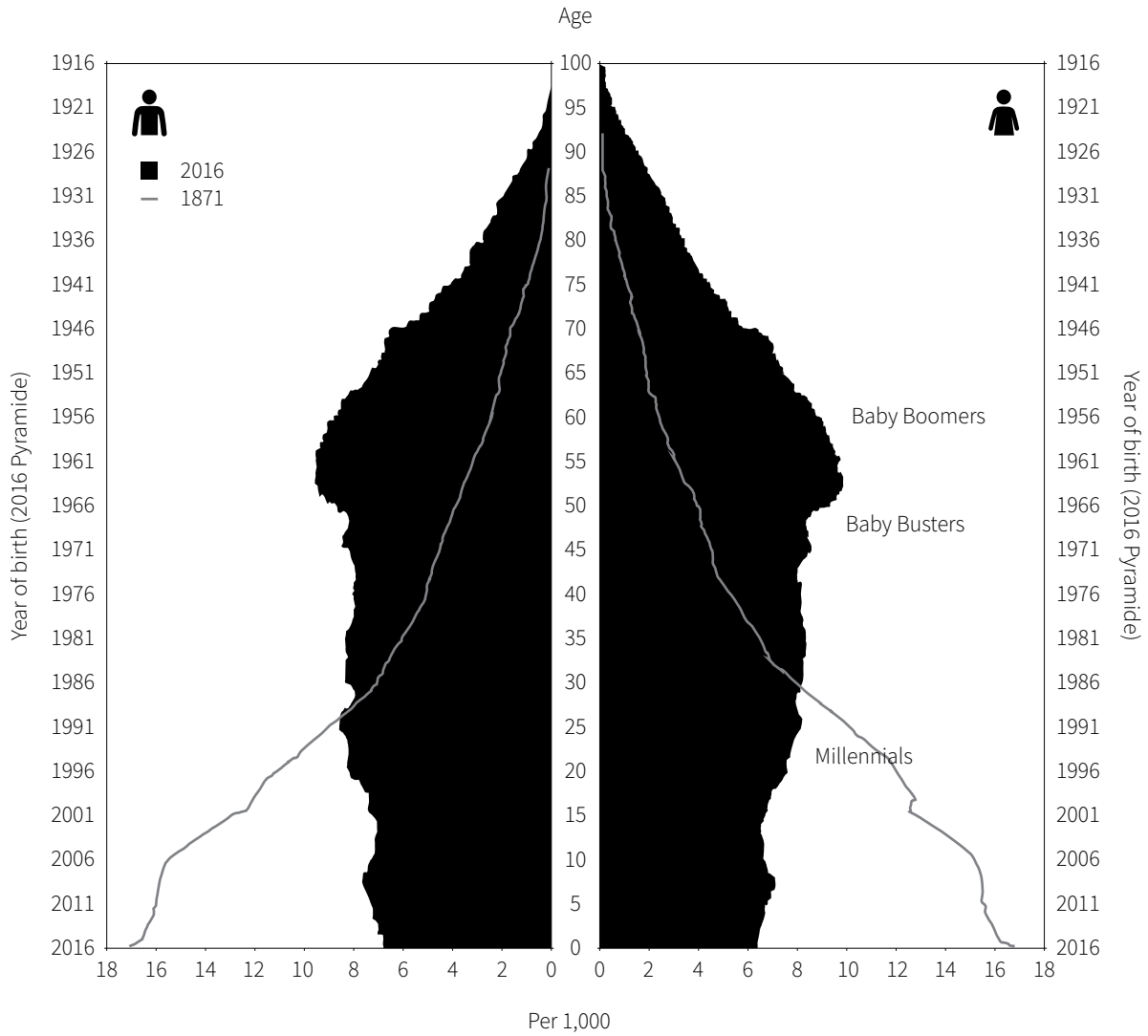
SOURCE: STATISTICS CANADA 2017B.

FIGURE 2
PERCENTAGE OF THE CANADIAN POPULATION AGED 65 AND OLDER, 1871, 2016 AND 2063
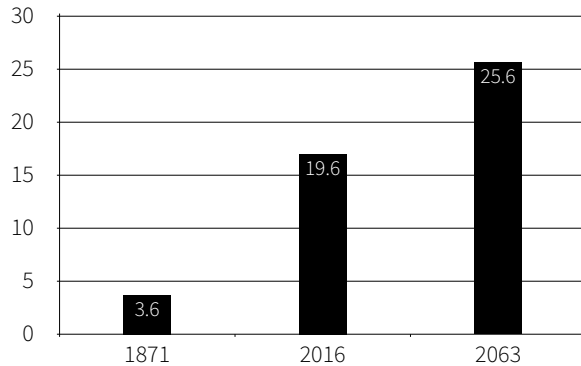
SOURCE: BOHNERT, CHAGNON AND DION 2015, MEDIUM PROJECTION SCENARIO FOR 2063 AND DATA FOR 1871 AND 2016 IN FIGURE 1 SUPPLIED TO THE AUTHOR BY THE STATISTICS CANADA DEMOGRAPHY DIVISION.

distinctive cohorts, or groups of people that were born around the same time or during a specific period. Earlier in the 20th century, fertility levels were declining. But, the "baby boom generation" was born between 1946 and 1964 as a result of higher levels of fertility, as families had three, four and more children. This increased fertility partly reflected postponed births earlier in the Great Depression, and also Canada's rising post-war economic prosperity at a time when most parents wanted more children and when women still were expected to work solely in their homes for the benefit of their children and their partners. The oldest of the baby boomers, born in 1946, turned 65 in 2011, and the last will do so in 2029. Because of their relatively large size and increased life expectancy, this cohort will dominate Canada's 65 and older population for some time. However, only centenarian Baby Boomers will be

alive at Canada's bicentennial.

The cohort that will be dominating the population 65 years and older in 2067 will be the Millennials. This term refers to those who were born in the 1980s, 1990s and early 2000s. Dates for this group vary by study, but the intent is to define a group that experiences adulthood in the early millennium. If we define this cohort as born between 1981 and 2001, they are age 15-35 in 2016 (Figure 1) and they will be age 66 to 86 by the bicentennial. It is this group that will shape what it means to be older at Canada's 200 birthday.

Why the interest in the Millennials? Unlike the Baby Boomers, the answer lies not so much in the period in which they were born but instead in the trajectory of their young adult transition experiences, the implication of these for later in life and the fact that the beginning of the 21st century represents both a new starting point but also the continued and acceleration of the digital age, changes in the structure of work and related challenges to making a living. Canadian research suggests that, as a group, today's Millennials have the following characteristics: a) they are better educated than cohorts that preceded them; b) the sequencing of markers in pathways to young adulthood is no longer linear.

In a somewhat over-generalized script, for much of the 19th century, including the Baby Boomers, adulthood began somewhere along a series of sequential steps: completion of schooling; obtaining a "secure" job (ideally with a career trajectory); moving out of the parental home; getting married and having children, and eventually retiring, usually around age 65. Today, such timing is hardly sequential.

Millennial Joe/Jo may drop out of school, live with parents, get married around age 30, go back to school, move to his/her own apartment, have the first/only child at age 35, get divorced, lose a job, move back with parents, go back to school, and so forth. (S)he may retire at 55, re-enter the labour force at age 60, retire again, and each time change his/her full time/part time job status, type of work and earnings.

These multiple changes often are described as delays in the transition to adulthood, implying that important stages such as educational completion, marriage or partnering, having children, earning a living and owning a home are all delayed. Research, in fact, confirms increases in the percentages of young people living with parents, the postponement of marriage and birth of children, often when young adults are in their thirties, and difficulties in obtaining full-time jobs and earning money (Clark 2007; Galarneau, Morissette and Usalcas 2013). In 1976, for example, the maximum full-time employment was reached at age 25, whereas in 2012 the maximum age occurred at 31 and then again at age 42.

Wage increases in the 2000s also did not appear to compensate for lower wages found in previous decades (Galarneau, Morissette and Usalcas 2013 and background tables; also see Morissette 2016; Statistics Canada 2018). It thus is not accidental that groups born after the baby boom, particularly those in young adulthood, have the highest percentages of all "generational groups" worried about economic factors (see Jedwab this volume). Their delayed and varied pathways to adulthood may also mean lower pensions and savings as they age.

Currently, the experiences of the Millennial cohort raise the potential for three outcomes: 1) brain waste, which happens when Canada's highly educated young adults are not working in jobs that match their expertise; 2) lower economic status in terms of household earnings, home ownership and higher poverty rates in middle age; 3) followed by lower economic status in old age. By the bicentennial, researchers will have determined if the delayed transitions of Millennials indeed had lifetime negative consequences. For now, two characteristics of the 2067 bicentennial are assured: a much higher percentage of persons age 65 and older than ever before, and the maturation of a unique birth cohort, the Millennials.

REFERENCES

BOHNERT, N., J. CHAGNON and P. DION. 2015. *Population Projections for Canada* (2013 to 2063), *Provinces and Territories* (2013 to 2038). Catalogue No. 91-520-X. Ottawa: Statistics Canada. www.statcan.gc.ca/pub/91-520-x/91-520-x2014001-eng.htm (accessed 10 April 2018)

CHAGNON, J. and L. MARTEL. 2012. *Population growth in Canada: From 1851 to 2061.* Catalogue No. 98-310-X2011003. Ottawa:Statistics Canada www12.statcan.gc.ca/census-recensement/2011/as-sa/98-310-x/98-310-x2011003_1-eng.pdf (accessed 02 April 2018).

CLARK, W. 2007. "Delayed Transitions of Young Adults." *Canadian Social Trends*, Winter: 14–22 www.statcan.gc.ca/pub/11-008-x/2007004/pdf/10311-eng.pdf (accessed 10 April 2018).

GALARNEAU, D., R. MORISSETTE and J. USALCAS. 2013. What has changed for Young People in Canada? *Insights on Canadian Society*. July. www.statcan.gc.ca/pub/75-006-x/2013001/article/11847-eng.pdf (accessed 02 April 2018).

HENRIPIN, J. 1972. *Trends and Factors of Fertility in Canada.* 1961 Census Monograph. Ottawa: Minister of Industry, Trade and Commerce.

MORISSETTE, R. 2016. Perspectives on the Youth Labour Market in Canada. Presentation at Statistics Canada, December 5. www.statcan.gc.ca/pub/11-631-x/11-631-x2016002-eng.htm (accessed 10 April 2018).

STATISTICS CANADA. 2017a. *A Portrait of the Population Age 85 and Older in 2016 in Canada*. May 3. www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016004/98-200-x2016004-eng.cfm (accessed 02 April 2018).

STATISTICS CANADA. 2017b. *Age and sex, and type of dwelling data: Key results from the 2016 Census*. https://www.statcan.gc.ca/daily-quotidien/170503/dq170503a-eng.pdf (Accessed 02 April 2018).

STATISTICS CANADA. 2018. *A Portrait of Canada's Youth*. February 7. www.statcan.gc.ca/pub/11-631-x/11-631-x2018001-eng.htm (accessed 10 April 2018).

CANADIANS' EXPECTATIONS ABOUT 2067

CHRISTIAN BOURQUE

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As *Canada 150* celebrations come to a close, how do Canadians living today imagine *Canada 200*? Where will we be? How much better or worse off will we be on a number of key concerns to us today? Do Canadians expect we will be happier, in better health, more tolerant towards others? Well, we decided to poll Canadians on what they feel Canada will be like in 2067.[1] We asked them if they believe Canadians will be more or less of something, or if they believe we will be better or worse off compared to today. We grouped our 19 questions into four themes: 1) political and social values (●), 2) love, life and happiness (●), 3) physical wellness (●) and 4) openness to others (●).

LOVE, LIFE AND HAPPINESS

Well… let's start with the bad news. Canadians believe that in 2067, stressed out Canadians will be poorer, less happy, not as close to their family, in a country that will be increasingly unsafe and less religious than we know it today. It should be mentioned that the most "optimistic" generation in the survey are Millennials, who will be the only generation in today's survey that will still be alive en masse to witness 2067. The oldest Millennials will be 85 when *Canada 200* celebrations officially kick off. While Millennial are more optimistic, they still believe we will be poorer, not as happy and the rest,

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1   The survey was conducted using the Leger Omnibus Survey of 1,530 Canadians (18 years and over). The survey was conducted between March 18 and March 24, and conducted via the LegerWeb Internet panel. The data was weighted to the latest Statistics Canada data by age, gender, region and level of education. The preamble to the questions was the following. "When answering the next series of questions, we ask that you project yourself in the future and give us your impressions of the future on a number of issues. In 2067, that is fifty years into the future, do you believe Canadians will be…?"

TABLE 1
OVERALL RESULTS OF 'WHERE WILL WE BE IN 2067?' (IN DESCENDING ORDER OF "MORE OR BETTER OFF")

	More/Better	Less/Worse	Do not know
Environmentally conscious ●	76%	16%	9%
Stressed out at work ●	66%	22%	13%
Informed ●	65%	23%	11%
Openness to the world ●	62%	24%	14%
Multilingual ●	61%	27%	12%
Curious ●	57%	26%	17%
Conscious of gender equality ●	57%	28%	15%
Proud to be Canadian ●	57%	26%	17%
Vegetarian ●	54%	23%	22%
Personal health ●	52%	36%	11%
Physically fit ●	46%	41%	13%
Tolerant ●	45%	41%	14%
Welcoming to immigrants ●	42%	38%	20%
Interested in politics ●	37%	33%	19%
Close to family ●	37%	45%	18%
Feeling of safety ●	34%	51%	15%
Happier ●	33%	44%	23%
Rich ●	21%	59%	20%
Religious ●	13%	72%	15%

but the gap is simply smaller. This data suggests that confidence in the future is an issue for today.

POLITICAL AND SOCIAL VALUES

In many ways, Canadians believe we will grow to be more virtuous when it comes to the environment, gender equality and our pride in being Canadian. One interesting conundrum remains the fact that we will be better informed, more curious in general … yet less interested in politics! Do we believe "politics" as we know it will be less present in our lives? Is that a projection or a wish? Canadians appear to be pointing to the "end of ideology", as if we will become less interested in politics because politics will become less interesting. As for the environment, are Canadians highlighting this issue because they believe we will become more "green" because we want to or have to?

PHYSICAL WELLNESS

Canadians feel we will be in great shape and eat better by 2067. In other words, we will most likely live unhappy and poor … for longer! While vegetarianism and veganism are somewhat trendy in 2017, many Canadians extend that trend into the future and our survey shows that it is Canadians 18 to 24 years of age who lead the way. As they will still be alive in 2067, and as today's Gen Z members will be approaching retirement age in 2067 (if the concept of retirement still exists), probably their children will have grown up in a world where family meals do not feature a big piece of meat in the centre of the table.

OPENNESS TO OTHERS

If we trust the perspectives of contemporary Canadians, the "global village" narrative very much present today will still be there in 2067. We will generally be more open to the world and increasingly multilingual. Do Canadians project that this will be the result of a more diverse population due to immigration into Canada or simply a shared or common desire to be more open? Along the same lines, it is interesting to note that Canadians, across all regions, are rather divided on whether Canada will be more (45%) or less (41%) tolerant and more (42%) or less (38%) welcoming to immigrants in 2067. Is our openness to the world indicative of our openness to the world coming to *live here* in Canada? Survey results suggest the "jury is still out" on that one.

CONCLUSION

Reading through the data, Canadians do not appear as the eternal optimistic and jovial beings some make us out to be. There is something rather Orwellian about how we project present attitudes into the future and what we feel are certitudes moving forward. One key element of the research remains the gap between how we perceive the global village making us more open, curious and informed… yet we are not so open when it comes to immigration. Maybe it is Canadians' apprehensions about how 'good' life will be in the future (love, life, happiness) that makes them so clear about their thoughts on the global village, yet so hesitant when it comes to their *local village*.

IT'S 2067 AND CANADA'S MINISTER FOR LONELINESS IS WORKING OVERTIME

JOHN MILLOY

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As Canada marks its 200th birthday in 2067, loneliness will undoubtedly be one of the greatest challenges facing our nation. A variety of forces, from technology to demographic shifts, through to the changing nature of political discourse, will have created a society whose members feel isolated and disconnected from each other.

The resulting health problems, economic cost and inability to rally Canadians to common causes will make fighting loneliness a priority for Canada's policy makers. By 2067, the problem will be so serious that Canada will by then have a full-time Minister for Loneliness, undoubtedly the busiest person in cabinet.

Linking loneliness with a significant Canadian anniversary is not as strange as it seems. The theme of Canada's great centennial exhibition, Expo 67, was "Man and His World" – a title taken from the memoir *Terres des Hommes* by the famous French thinker Antoine de Saint Exupéry. In the book, Saint Exupéry used his experiences as a pilot to explore the human condition, particularly our sense of solitude, and the role that friendship and solidarity play in helping us overcome it.

Inspired by this theme, it was decided that Expo would celebrate humanity's ability to better the world through a growing sense of interdependence. As the Quebec novelist Gabrielle Roy, one of those charged with developing the Expo 67 idea, explained: "Each one of us remains alone, yet not immune for long to his brother's plea for help or

need for company. Is it mere coincidence that solitary and solidarity, the two words that express the essence of our human condition, are similar?"

Expo's message acknowledged the dangers to human progress created by urbanization, new technologies, "the fantastic accumulation of knowledge" and other forms of modernity. However, we were told that by working together, we could address these challenges, including overcoming the barriers of loneliness that they were creating.

A little over a half century later, an announcement out of Britain seemed to indicate a certain naiveté on the part of Expo's visionaries that loneliness could be so easily overcome. In January 2018, British Prime Minister Theresa May announced the appointment of a national Minister for Loneliness. A recent report had indicated that over 9 million adult Britons were "often or always lonely". It was affecting people's health, hampering productivity in the workplace and eroding social cohesion.

News of the ministerial appointment garnered international attention. Although interest was partly due to the sheer novelty of the title, it also reflected a general concern about social isolation and loneliness. Here in Canada, experts estimated that "1 in 5 Canadians experience some form of loneliness or isolation." Representatives of various groups, particularly seniors, new Canadians, those living in poverty or with disabilities, came forward to speak of the toll that a lack of social interaction was having on their populations.

Loneliness is literally killing us. In an essay in the *Harvard Business Review*, former U.S. Surgeon General Vivek Murthy identified loneliness as being associated with "a greater risk of cardiovascular disease, dementia, depression, and anxiety," claiming it resulted in a "reduction in lifespan similar to that caused by smoking 15 cigarettes a day and even greater than that associated with obesity." Murthy pointed out that loneliness also hampers workplace productivity, with lonely and isolated workers being less creative and unable to engage fully in effective decision making.

And think of other, less easily measurable, costs. Humanity is at its best when we work together, each contributing to the common good. When we allow a significant portion of the population to become isolated, we rob ourselves of their energy, their ideas and their simple participation in efforts to build a better world. The nature of the challenges facing our nation, from climate change to poverty, through to reconciliation with Indigenous Peoples, demands an all-hands-on-deck approach.

Is anyone surprised when experts tell us that the situation is getting worse? Anyone experiencing modern life realizes that we are on a trajectory that will result in loneliness being among the greatest challenges facing our nation as it turns 200.

The signs are everywhere.

You need only start with the ubiquitous smartphone. An intimate family dinner, with every participant focusing on their phone instead of each other, is no longer simply fodder for cartoonists — it is a modern-day reality. It is having a particularly devastating effect on youth, those who will be leading the country in 2067. As Jean Twenge, Professor of Psychology at San Diego State University, concluded in a widely read *Atlantic* article on

the effects of smartphones on youth: "The portrait of iGen Teens emerging from the data is one of a lonely dislocated generation."

Tied to smartphone use is the rapid rise of social media. Virtual communities don't seem to be replacing the type of in-person connectedness that is so beneficial to someone's health and well-being. And it's not just formal social interaction that has gone missing. Growing activities like on-line shopping have eliminated important casual social contact.

New social patterns reinforce loneliness. As children grow and disperse across larger and larger geographic areas, our sense of connection with friends and family weakens. On the education front, the hustle and bustle of campus life doesn't seem to be filling the void, with a recent survey indicating that more than two-thirds of Canadian university students reported feeling "very lonely".

And what of employment? The idea of a permanent life-time job is now a distant memory. Short-term jobs that take you from employer to employer and even community to community severely limit the opportunity to make long-lasting friendships in the workplace. The fact that a growing number of these jobs involve working from home only heightens the sense of isolation.

Looking ahead, increasing automation and the rise of artificial intelligence are certain to disrupt the lives of most Canadian workers, rendering many permanently unemployed. Are we about to create an entire class of Canadians who feel useless and disconnected from the world of work? A new Guaranteed Annual Income program might offer them financial support, but how will they fill their days?

Countless individuals sitting at home, growing more and more isolated, could dramatically weaken the bonds of our society.

Our aging population means that the leaders of 2067 will be dealing with a much older Canada. As seniors are particularly vulnerable to isolation, it will also be a much lonelier nation. Increasing immigration will not help on the loneliness front as many new Canadians, struggling to integrate into mainstream society, will experience their own isolation.

What is going to hold us together in 2067? Over the next fifty years, we are as a nation less likely to watch the same TV shows, read the same books or consume the same news media — common cultural references will continue to disappear. Churches, social organizations and political parties will continue to struggle to maintain their membership, and more and more of us will be "bowling alone", to borrow the title of Robert Putnam's famous book about the negative effects of the lack of social cohesion on democracy.

We seem to be experiencing a political polarization that grows more profound every day. As more Canadians adopt an "I am always right and the other side is always wrong" attitude, we tend to avoid interacting with those who hold different views. As we grow more isolated in our opinions, we are creating a political loneliness that will render national discussions and political compromise extraordinarily difficult.

Fifty years from now, fighting loneliness will go beyond the activities of one government department. It is more likely, in fact, that Canada will have a Minister Responsible for Loneliness whose

role will be to coordinate activities by every depart-
ment and analyze all government policy proposals
through a "loneliness lens".

There is another reason that the task won't simply
be given to a line department. By 2067, the ero-
sion of trust in government will mean citizens will
no longer look to those in charge for top-down
answers. Solutions to most pressing problems will
be developed at the grass roots level, with govern-
ments playing the role of convenor or facilitator.
Government will need to work alongside groups
that connect people and build interdependence,
such as volunteer groups, business and community
organizations and faith communities, all of which
create a sense of belonging.

There is reason for optimism. Despite the forces that
seem to be tearing us apart, humans long for social
interaction and a sense of connectedness. Every
now and again there are bright spots on the horizon
of citizens coming together almost spontaneously
— think of all those who joined forces to welcome
Syrian refugees. Although harnessing that energy
to build a less lonely Canada will be a major chal-
lenge for whomever is running our nation in 2067,
it will be worth the effort. As Saint-Exupéry taught
us in *Terres des Hommes*, "there is only one true form
of wealth, that of human contact."

POPULATION GROWTH, CANADA'S ENERGY TRANSITION AND CLIMATE CHANGE: A HIGH RISK FUTURE?

DON KERR

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Canada's population could potentially increase by 50% over the next half century. Despite declining rates of natural increase, this is within the realm of possibility given the high level of immigration that characterizes Canada. All three major federal parties in Canada are pro-immigration, with ongoing political pressures to raise immigration targets (Saunders, 2017). Levels have recently risen to near all-time highs — for example, the federal government committed itself in late 2017 to welcoming close to a million newcomers over the next three years (Bascaramurty, 2017).

While Canada's population is expected to increase, what happens elsewhere will clearly swamp this demographic growth. Consider the United Nation's (2017) global projection with a medium growth scenario of an additional 2.8 billion persons over the next 50 years (as opposed to perhaps 15-20 million in Canada). This projection anticipates a global population of close to 10.5 billion (up by 37%) by 2067. This is not an inconsequential increase, as this growth is greater than the current population of both China and India combined. Even with the UN's low variant, which assumes a major drop in fertility to levels well below replacement, the population momentum inherent in the world's current age structure ensures an additional 1 billion people.

To put this into perspective, Canada's current share of global population (at only about 0.5%) is not expected to change much over the next half century. Yet an additional 2-3 billion people, in and of itself, will have an important impact on Canada. This is particularly true given the importance of Canada's resource sector and ongoing efforts to extend traditional trading relationships beyond North America. Not only will it impact the demand for resources and energy exports, but also global greenhouse gas emissions, the pace of global warming, and con-

sequently the health of Canada's environment.

CANADA'S ENVIRONMENTAL RECORD

By international standards, Canada's environmental record has been mixed. As an indication of this, the Yale Centre for Environmental Law and Policy recently published a ranking of 180 countries according to a composite index meant to measure "sustainable development" (Hsu et al, 2016). The composite index summarizes data across 20 public health and environmental indicators. Canada scored 25th overall, yet its relative ranking could have been much higher had it not been for its relatively poor performance on several of the indicators meant to measure "environmental damage". As an example, Canada currently ranks 107th in terms of the indicator of "CO_2 emissions per KWH".
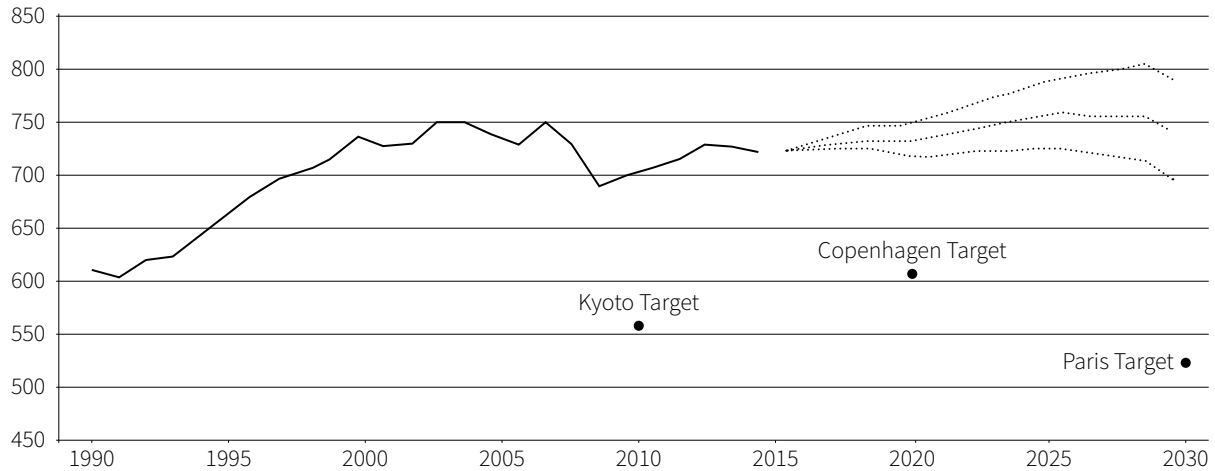
Environment and Climate Change Canada (2017a) has recently published estimates and forecasts on GHG emissions (Figure 1), which demonstrate the extent to which Canada has failed to meet past commitments on greenhouse emissions (Kyoto; Copenhagen) and is likely to miss future international commitments (Paris). Based on historical data and a review of all actions taken by government through to November 2016, Environment Canada has forecasted that Canada is set to miss its current international commitment at Paris of 520 megatons of CO_2 equivalent by 2030 (projected emissions range between 697 and 790 megatons under current policy/proposed regulations).

There is considerable uncertainty in these projections, as for example, it is impossible to predict with any precision future initiatives or regulations introduced by all levels of government, just as it is impossible to predict future growth in the demand for Canadian commodities (including energy). Yet in an independent set of forecasts, the International Energy Association (2017) has predicted that on a "global level", the demand for oil should continue to grow until at least 2040. This is largely due to major growth in population and the subsequent global demand as well as a lack of easy alternatives to oil in petrochemicals, road freight and aviation. In this context, it is reasonable to anticipate a growing demand for Canadian exports, and in particular, a demand for Canada's energy resources.

Although Canada's greenhouse gas emissions have levelled off somewhat (with a very slight decline since 2005), global emissions have continued to climb rapidly — up by about 20% over this same time period (Environment and Climate Change Canada, 2017b). Canada, due to the energy intensity of its economy and continued reliance on fossil fuels, has not been particularly successful in reducing its carbon footprint. Yet while the Canadian government documents the GHG emissions that result from the burning of fossil fuels internal to Canada, it is not mandated to include in its official reports the emissions that result from the end-use combustion of exported fuels. As a result, there is little awareness in Canada as to the scale of these emissions, which in reality represent a large outflow of planet-warming carbon. Remarkably, the Auditor General of Canada (2017) has recently estimated that the emissions associated with the burning of Canadian exported fossil fuels is near equivalent to the total reported above, at about 720 megatons of CO_2 equivalent in 2015.

FIGURE 1
HISTORICAL ESTIMATES 1990-2015[1] AND PROJECTED GREENHOUSE GAS EMISSIONS 2016-2030,
MEGATONS OF CO_2 EQUIVALENT, CANADA

SOURCE: ENVIRONMENT AND CLIMATE CHANGE CANADA, 2017A
[1] These estimates do not include emissions that arise from the end-use combustion of exported Canadian fossil fuels

CANADA'S WARMING CLIMATE

The net effect on global warming is largely the same, regardless of where the end-use combustion of fossil fuels occurs. Over the last 69 years of careful record keeping across Canada, Environment and Climate Change Canada (2017b) has captured a linear warming trend for the country as a whole, which indicates an increase of roughly 1.5 degrees Celsius during the summer months and fully 3.3 degrees Celsius during the winter months (Figure 2). In working with annual averages rather than the aforementioned seasonal changes, Canada has warmed at a rate that is about twice the global average (Environment Canada, 2012). While Canada produces more than its share of GHG emissions, so too

has it witnessed greater warming of its climate — an inference which is true across several high latitude regions. This has led to many profound changes in the north, including the melting of glaciers and sea ice, a softening of much of the northern tundra and a real impact upon the health of the boreal forest.

In contrast, the most southern and densely populated regions of the country have witnessed much less warming, particularly during the summer months, regardless of public perceptions. Over the next several decades, the International Panel on Climate Change (IPCC) forecasts that this warming will be felt increasingly in the more southern regions of Canada, with uncertain environmental and social effects (Romero-Lankao et al, 2014).

Whereas Environment and Climate Change Canada has recently documented that 2016 was its fourth warmest year on record (2010 was the warmest), temperatures were not far from average throughout much of southern Canada. While in 2016 the national average was 2.1 degrees Celsius above Environment Canada's baseline average, temperatures were of the range of 3 to 4 degrees above this same baseline throughout much of Nunavut and the eastern Arctic. In terms of winter temperatures, Yukon had its warmest winter on record (fully 6.8 degrees above average), with comparable anomalies in the Northwest Territories and the northernmost forests of Alberta, Saskatchewan and Manitoba (5.1 degrees).

A HIGH RISK FUTURE

The IPCC has established with near certainty the association between increased GHG emissions and global warming. Figure 3 provides a summary of the IPCC's (2014) most recent set of forecasts (Fifth Assessment Report) on the extent to which average global surface temperatures can expect to rise over the next century. All forecasts imply a warming climate, yet the range of future outcomes is extremely wide. Four different scenarios are provided (representative concentration pathways, or RCPs) developed by the IPCC to portray four possible climate futures. RCP2.6 assumes that global GHG emissions will peak in the current decade (2010-2020), with levels declining substantially thereafter. Emissions in RCP4.5 peak around 2040, then decline, whereas emissions in RCP6.5 peak in 2080 then decline. RCP8.5 is the most pessimistic of all the scenarios in assuming a sustained growth of emissions throughout the 20th century.

Underlying each pathway is a different scenario on future population growth, which in turn is considered fundamental in forecasting emissions. For example, the most pessimistic forecast (RCP8.5) assumes sustained population growth throughout the current century, whereas the most encouraging (RCP2.5) assumes slow growth stabilizing by mid-century (van Vuuren et al., 2011). In the IPCC's most optimistic forecast (RCP2.6), the underlying assumption on population is slightly higher than the UN's low variant — with global population at about 9 billion by 2067. With the IPCC's most pessimistic forecast (RCP8.5), projected growth is only slightly higher than the UN's medium variant — with the global population of about 10.6 billion by 2067 (van Vuuren et.al. 2011).

With this wide range on future "concentration pathways", the only scenario that falls safely without the target set out in Paris is RCP2.6 — with a warming of less than 2 degrees over the longer term historical average. This latter scenario is not realistic as it implies a very stringent mitigation scenario in terms of reducing GHG emissions (i.e. the world must meet its Paris commitments) and a rather dramatic slowing in the rate of global population growth (with the global fertility rate falling below replacement within a few decades). In addition, with each RCP the IPCC has applied a broad range of climate models, which leads to a wide range of forecasts associated with each (this is captured through uncertainty associated with each RCP as represented by the bars to the right of Figure 3).

This uncertainty relates to the complexities of modelling climate beyond the uncertainties in forecasting future population and GHG emission levels. Yet well within this range of forecasts is the risk that global

FIGURE 2
NATIONAL TEMPERATURE DEPARTURES (CELSIUS) AND LONG-TERM TREND, CANADA, 1948-2016
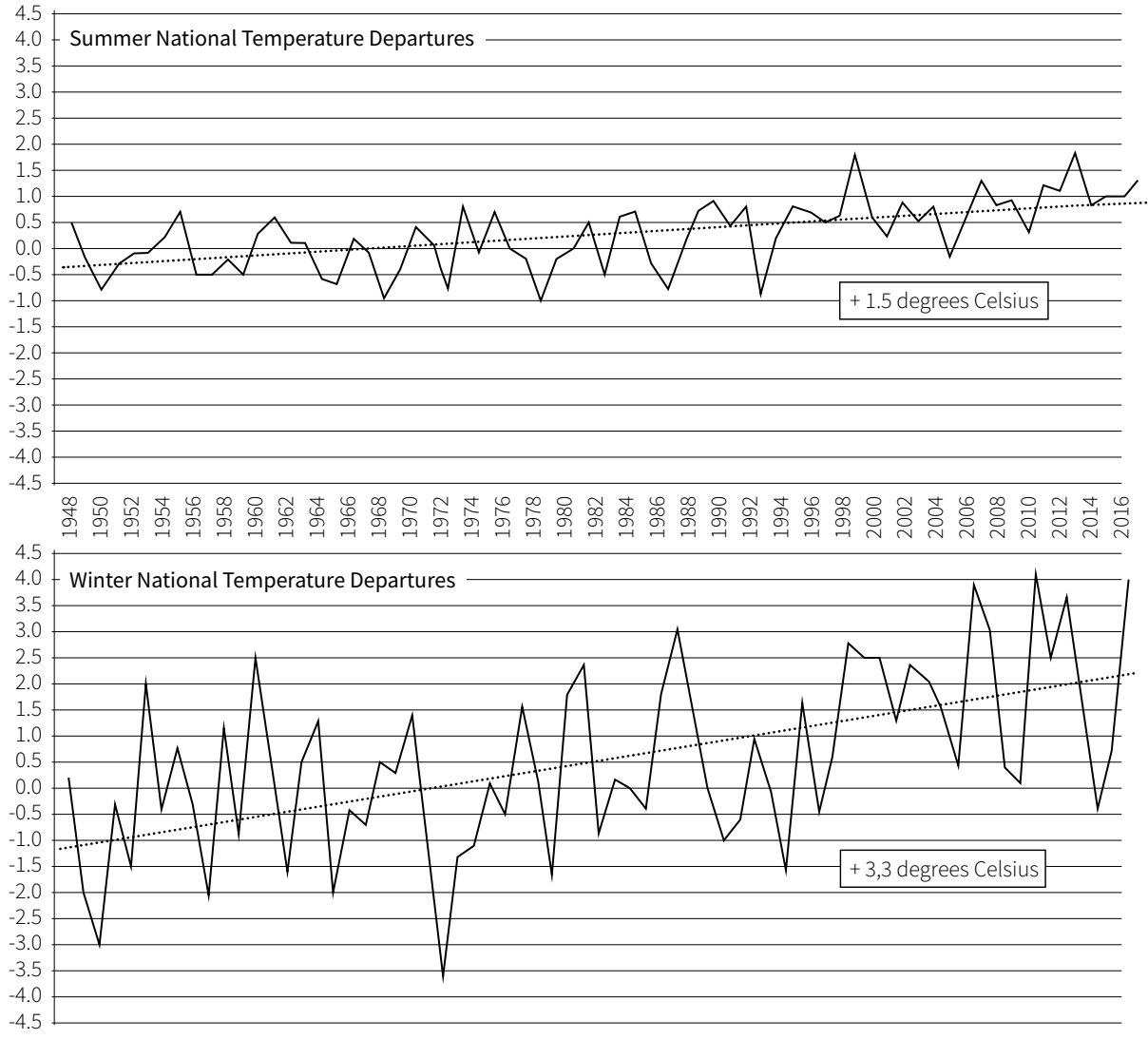
SOURCE: ENVIRONNEMENT ET CHANGEMENT CLIMATIQUE CANADA, 2017B

FIGURE 3
FORECASTED AVERAGE SURFACE TEMPERATURE CHANGE (RELATIVE TO 1986-2005), IPCC 2014
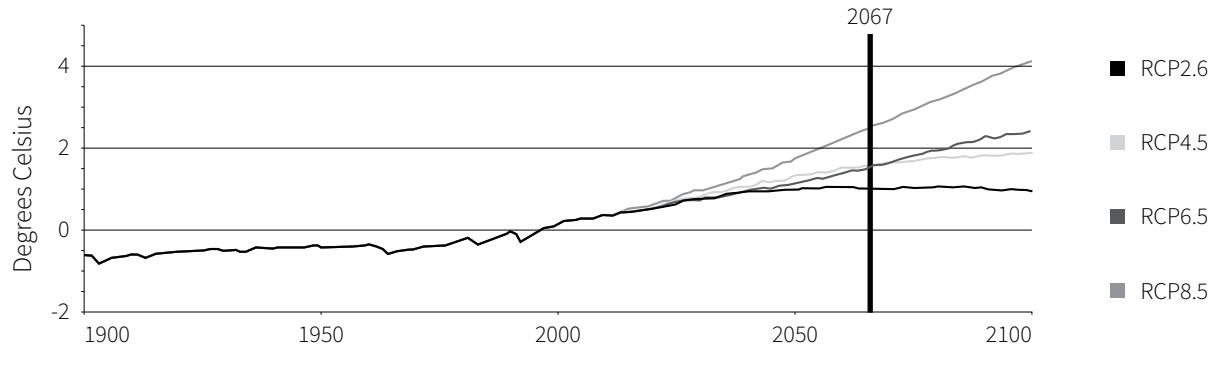
SOURCE: IPCC FIFTH ASSESSMENT REPORT, 2014

temperatures surpass the 2 degrees of warming over pre-industrial levels by Canada's bicentennial year in 2067. And recall that the pace of warming will be far greater in the northern latitudes; i.e. the forecasts implied in Figure 3 will be amplified into far greater warming for countries like Canada. The uncertainty in these forecasts remains high, just as do the potential risks associated with some of the worst case scenarios.

CONCLUSION

The IPCC considers demography as fundamental to its forecasts on GHG emissions, with greater growth implying higher emissions. This scientific research begins with what is easily verifiable; population size can be considered a fundamental multiplier in estimating environmental impact. The consensus coming out of the IPCC is that population growth on a global scale is obviously of major consequence in terms of both future resource use

and future GHG emissions. In this context, even if Canada quickly moves through its energy transition and were to experience more moderate population growth than expected or even approach population stability, what happens elsewhere will be of major consequence to Canadians as they approach their bicentennial year.

REFERENCES

AUDITOR GENERAL OF CANADA, 2017. Quantification of Canada's total carbon dioxide emissions from exported fossil fuels. Office of the Auditor General of Canada.

BASCARAMURTY, D. 2017. Canada aims for immigration boost to buttress economy as population ages. *Globe and Mail*, November 1, 2017.

ENVIRONMENT AND CLIMATE CHANGE CANADA. 2017a. Canadian Environmental Sustainability Indicators: Progress Towards Canada's Greenhouse Gas Emissions Reduction Target. Government of Canada: Ottawa.

ENVIRONMENT AND CLIMATE CHANGE CANADA. 2017b. Climate Trends and Variations: Summer Bulletin; Winter Bulletin. Government of Canada. Ottawa.

HSU, A. et al. (2016). 2016 Environmental Performance Index. New Haven, CT: Yale University. Available: www.epi.yale.edu

IPCC, 2014. Fifth Assessment Report, International Panel on Climate Change. Kirtman, B., S.B. Power, J.A. Adedoyin, G.J. Boer, R. Bojariu, I. Camilloni, F.J. Doblas-Reyes, A.M. Fiore, M. Kimoto, G.A. Meehl, M. Prather, A. Sarr, C. Schär, R. Sutton, G.J. van Oldenborgh, G. Vecchi and H.J. Wang. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

INTERNATIONAL ENERGY ASSOCIATION (2017) World Energy Outlook 2017. International Energy Association. Paris: Cedex.

ROMERO-LANKAO, P., J.B. SMITH, D.J. DAVIDSON, N.S. DIFFENBAUGH, P.L. KINNEY, P. KIRSHEN, P. KOVACS, and L. VILLERS RUIZ, 2014: North America. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1439-1498.

SAUNDERS, D. 2017. *Maximum Canada: Why 35 Million Canadians Are Not Enough.* Penguin, Random House: Toronto.

UNITED NATIONS. 2017. World Population Prospects: 2017 Revision. Department of Economic and Social Affairs, Population Division. New York: NY.

VAN VUUREN. D., J. EDMONDS, M. KAINUMA, K. RIAHI, A. THOMSON, K. HIBBARD, G. HURTT, T. KRAM, V. KREY, J-F. LAMARQUE, T. MASUI, M. MEINSHAUSEN, N. NAKICENOVI, S. SMITH and S. ROSE. 2011. The Representative Concentration Pathways: an Overview. Climatic Change 109.