DESIGN: THE SOMEWHAT UNKNOWN BUT KEY INGREDIENT IN INNOVATION
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Purpose
The purpose of this paper is to encourage the use of design and designers as key ingredients in innovation in the public sector.

The proposition in paragraph
Innovation goes well beyond strategic planning. At its highest, innovation is a radical new way of formulating the problem and a breakthrough design – that brings us new benefits we were not aware of when we started. Innovation is the product of creative, rigorous and iterative design. The natural and human science disciplines discover and analyse the nature of things. The design disciplines use that knowledge to make new things. Their expertise is focussed squarely on innovation. The broad and complex challenges of innovation in government can be far better met if we use the skills and methods of design – as well as research, analysis, management and planning. Innovation in government requires teamwork – including expert designers…and facilitation. Canadian public policy tends to be driven by problems, most of which are related to entitlement. By its nature innovation tends to make us design the future as well as solve problems of the moment. Let us start now to add design skills, methods and frameworks to government at all levels, including Parliament, policy sectors and teams and the disciplines that lead to careers in government.

Author's background vis design and government
In 1970 I went on half time at my university teaching post at Carleton University and started chasing consulting assignments in government. My mission was to add value from my training and experience as an architect and planner to urban, community, housing and workspace policies. I obviously did not turn the tide in those areas. However I did find a satisfying career niche applying design and facilitation skills and methods to the development of policy, strategy, and organizations. Since 1970 I've undertaken about a hundred projects in the social, economic, environmental and governance sectors for central agencies and the Prime Minister, departments, national voluntary organizations, international high tech companies, remote aboriginal communities, etc. My work includes facilitating groups of stakeholders, modelling and mapping complex systems, and designing three or four iterations with my clients until we reach a true innovation. I worked as an architect in England, Finland and the USA in my formative years and have kept in touch with the Finnish experience as a benchmark for much of my work.

All kinds of designers
In designing this paper I consulted with several colleagues in the public service and design disciplines. By the way the 'design' disciplines include: the performing and fine arts; architects, landscape and urban designers; engineers; and designers working in the areas of software, industrial products, graphics and film. We noted that design is taught by a process of designing things…starting with simple projects and basic elements of design then moving on to the full complexity of our medium. We learn to perceive accurately, draw, model, imagine and conceive in several simultaneous layers; including space, form, movement, colour, and composition.

Our conversations also focussed on the differences among the disciplines with regard to the outcome of the creative process. Artists start their project with a mixed sense of intention and discovery but do not know what the end-product will be, nor are they attempting to meet client specifications. The end product is found in the work through a process of observation, consideration, looking for ideas, sketches, starting over, etc. One might say that the project has reached the 'policy' stage when the artist finds the guiding ideas for a particular project.

Engineers tend to design solutions to specified problems and required end-states. Perhaps 'policy' happens early on when the choice is made of *what* is being designed.

On the other side of the disciplinary divide I've found that political science, public administration programs - even MBA programs - rarely train their students in the design of new policy, programs or organizations. Nor do sociology, economics, geography, etc.

Applying architectural design to innovation in government
The complexity of architects' design work is somewhat akin to the complexity of innovation in government. Architects are trained in a wide range of artistic, functional, social and technical design. The outcome of an architect's design process is somewhat open-ended. 'Policy' for them is found at the mid-point of the design process when the essential nature of the design has been realized in a sketch and set of written objectives.

Architects and other designers of the built environment work with distinct parameters of budget, client requirements, site and context, ecosystems, social norms, perceptions of light and space, materials and skills, health and safety standards, technical realities, etc. in pursuit of a delightful, safe and feasible future experience and environment for their client and society.

A good design provides benefits that the client has not have forseen or be able to make explicit. When the client asks for 'atmosphere' the architect can, with a little dialogue, realize that requirement as the subtle integration of forms, geometry, light, space, colour, social distances and settings, materials, etc. Good design achieves economy of means by careful study of the nature and use of things and by re-designing and simplifying until every element and relationship serves many purposes.

My experience has given me perhaps too vivid sense of the potential contributions of the skills and methods of architecture to innovation in government. So I propose a little experiment as you read on. In addition to the above notes re the nature of architects' work please consider the following project process with an eye for ideas on how to develop and use innovation teams and processes in government.

An architect is hired by a client who has a budget, site and expectations. The architect's responsibilities then follow the following path. They work with the client to define a feasible and visionary set of project goals and parameters, then develop a program of requirements, followed by a basic design sketch (the 'policy' form and objectives). Analysis and redesign of the initial will then go through several increasingly comprehensive iterations. At least one of those iterations will include consultations with local community and special interest groups. The design usually improves radically in that iterative process.

Once a design is settled the architect develops a set of contract drawings and specifications which become the basis for tenders from builders. The architect receives the tenders, assesses the bids, makes a recommendation on which bidder to select, then acts for the client in providing oversight to ensure the project is built on time, on budget, in accordance with regulations, etc. The architect will adjust the design in the light of ideas from the builder, unexpected site conditions, etc. The client gets the building on time and on budget. The architect's fee is around six percent of the building cost.

So what do you think? Does the above scenario help suggest how we could organize and manage for innovation in government?

An experiment in applying design to government
I helped PCO develop the Cabinet priority setting system in the mid-70's. We were bothered by the fact that Ministers were considering mostly what departments pushed up to Cabinet and little of their sense of the country or ideas were shaping the agenda. After some fussing, brainstorming and several false starts we found a new model. We cast the Prime Minister and Cabinet as the *client* with the mandate, goals and money, a small team of senior officials from a range of departments and central agencies as the *designers*, and working groups within every department as the implementation *contractors*. The process included gathering ideas for policy initiatives from each Minister in interviews and letters, synthesizing those ideas into a draft set of priorities, reviewing them with the PM, and the PM leading a review and further reshaping of the priorities with Ministers in an informal setting. (Yes, we found an abandoned cottage at Meech Lake) Once Ministers had re-shaped the priorities we asked all departments to use their expertise to add value and advance the priorities in feasible ways. The results of that stage then went through another design iteration as our teams of senior officials developed a set of proposals to Cabinet in about a dozen areas.

In the end we blew it…sort of. The proposals were too comprehensive to consider all at once and left Ministers too little room for their individual initiatives. However Cabinet did approve them as guiding principles for all Ministers and departments. Parts of that experiment have lived on, including the Government setting its top-down priorities as well dealing with bottom-up proposals…and periodic retreats for collective thinking and big decisions.

A better example; Finland's innovations to foster innovation
I would like you to consider some examples from Finland - a country with a vigorous tradition and culture of design in all aspects of society - that show how a virtuous circle and culture of true innovation can be built into the public sector. Here is a short story told to a Conference Board event three years ago by the chief CIO of Finland.

> A policewoman stops you for speeding. She flips open her wireless computer/phone, enters your license plate, and on the screen comes your name, address, and tax return, as well as your driving, criminal and health records. Speeding tickets are pro-rated to income in Finland. She has a little discussion with you to determine how much she might adjust the ticket in the light of the circumstances. Unless you protest the ticket that amount that is subtracted from your bank account 48a few weeks later. And you can access most of that information about your neighbours or the car beside you the same way.

The Canadian audience was in an uproar that only quietened a bit as the CIO went on to explain that the Finnish IT/IM system has been shaped by the following policy objectives.

1. Build trust among citizens and their institutions through maximum transparency and information (e.g. know your neighbours).
2. Minimize transactions by connecting data banks (e.g. the tax department sends you a detailed *proposal* for you to adjust, if you don't reply they assume you agree).
3. Promote democracy. (e.g. access & contribution to every government officials web-site)
4. Equip for global competitiveness (e.g. competitive domestic telecom market, e-literacy)

Some of the audience shifted from *"…never in Canada!"* to *"that is a challenging idea" as the* discussion delved into the consultative process of developing the policy and the benefits that have been achieved.

Where would such societal innovation come from ?
The policy was conceived about ten years ago by the Parliamentary Committee on the Future. It acts as a source and force for innovation in all sectors of Finnish society. Back-bench MPs of all parties become members of the Committee. Equipped with a substantial secretariat and research budget they fan out across Finland and the world looking for new ideas on what Finland could become in all sectors and dimensions. The Committee reports directly to Parliament and the Government of the day is obliged to publicly respond to their proposals.

As part of developing the above IT/IM policy they undertook research, consultation and design work with many experts and all parts of Finnish society. The Government of the day took up the proposal from the Committee. After much public debate the Finns decided to risk creating a more transparent, connected and trusting society – with less focus on privacy. As a result Finns enjoy a remarkable sense of trust and community, they have an extra hour in the day from the savings in transaction time and overhead, minimized requirements for e-infrastructure and encryption systems, etc. Policy development and decision-making is richer and easier at every level…because people have made real contributions to policies and decisions, know the facts, interests and benefits/costs and trade-offs, etc.

About twenty years ago an earlier version of the Committee spearheaded the addition of music to the core school curriculum. From age seven to sixteen Finnish students must sing, play an instrument, write music and study the structure of music. Why? The Committee had found and expanded on some early research showing that music produces creativity, math skills, self-esteem, self-discipline, team work, etc. I see evidence of the results in Canada - Nokia phones, orchestra conductors, Finnish designed pulp and paper machinery, Montgomery-Kone elevators, hockey players…and more innovation coming. That same research surfaced in Canada about two years ago. And you know how we are squeezing the arts out of our schools.

Despite at least three major geo-political set-backs in the twentieth century and few natural resources beyond trees the Finnish economy has consistently outgrown ours. And childhood poverty is one third of Canada's.

France has a central agency attached to the Prime Ministers office (DATAR) 'designing' the country in consultation with regions and sectors. Despite its size, complexity and free-market orientation the USA is consciously designing many of its national systems for energy, transportation, health, etc. with the assistance of a network of federal laboratories and wrist-length research institutions such as Batelle and Brookings.

It is difficult to imagine Canada having the capacity to take such a normative path, but the Finnish example and our sagging dollar, productivity and industrial innovation should at least prod us to consider embedding design capacity and innovation in our society and government.

The challenge of innovation in government
Architects have it easy compared to the broad scope of innovation required in government. Their work focuses on primarily on buildings and they primarily deal with people familiar with the building process.

In government at one time or another we have to at least watch everything and involve almost everybody. We may not get around to it very often but we are responsible for the vision and design of the nation state, including its demographics, governance, infrastructure, sovereignty, distribution of wealth, training, health and safety systems, etc. The stakeholders include everyone, and only a few understand the nature of governance. The daunting scope of

government is all the more reason to have a strong design capacity everywhere in government. The expert designer's instincts for clear goals, form and logic, economy, comprehensiveness, response to context, craft and elegance can all be applied to the products of government.

The current state of innovation in government
The Finnish example hits our current issue around the role of MPs head on. Our MPs outside of Cabinet are not in a position to bring their knowledge, networks, ideas and creativity to bear on the origins of policy. They only get a chance to snipe at the Government during the post-policy legislative process.

Policy in Canada today is primarily concerned with the issues (i.e. *difficult choices*) and problems of entitlement, distribution, mandates, etc. (*who*) and rarely with developing a vision and design of *what* kind of Canada and its component parts we could have and want. This condition is reflected in the current 'managerism' paradigm of the federal government and problem-solving orientation of the Prime Minister.

Some new policy tools nudge us toward an innovation culture in government. We are asking for vision statements (i.e. descriptions of a future state we wish to achieve) as well as mission statements (i.e. our role in helping make that vision happen). Strategic planning asks us to clearly articulate our objectives. Most departments in the federal government have vision and mission statements but do not have a design for their sector's system. In part we beg off because of the federal/provincial split in jurisdictions. One or two departments are developing highly creative, comprehensive and disciplined scenarios of alternative futures that could happen, depending on our interventions, as tools for policy and strategic thinking as ell as monitoring the direction of trends.

Health, education, transportation, immigration, industrial structure and productivity, the nature of our cities - even the nature of our sovereignty – could be 'managed' more effectively against a continuously refreshed design for that system, ideally nested in an evolving scenario for the kind of country we are trying to build.

Given the split in jurisdictions it might well be an important integrative responsibility for all sectors to sponsor one or more multi-sector institutions to continuously provide an overview of our national systems and propose integrative and normative designs or scenarios for all stakeholders to consider.

Recommendations
My passionate fantasy is that design be folded-in to the innovation process in all aspects of government. Please consider the following ideas.

1. The Government of the day and Clerk of the Privy Council lead the establishment of true innovation in all areas of government. Start with designing a role and mechanism for MPs to originate radical systemic policy ideas - spurred by but not copying the Finnish model. As with all designs we would not be obliged to execute it…but we might want to.

2. Commission departments and/or multi-lateral institutions to develop national overviews, designs and scenarios for their sector systems and use them to inform and challenge policy making and strategic thinking by all stakeholders in and outside of government. The Energy Technology Futures project of Natural Resources Canada can provide a good starting point.

3. University disciplines that lead to public service conduct exploratory research, with the assistance of design faculty colleagues and expert policy designers from government, on how to bring into their discipline the design (as well as knowledge and analysis) of systems, policy, programs and organizations. These faculties could include political science, public administration, law, etc. The other skills I would add to that experiment would be modelling, facilitation and the ability to write concise briefing notes and policy proposals.

4. Government recruiting and staff development programs occasionally seek and select graduates from the design disciplines for training and development aimed at producing policy and senior management personnel.

5. Graduates of design disciplines consider post-graduate training or assignments in public administration, political science, facilitation, policy writing and other policy capacities aimed at a career in the public service.

6. Leaders of innovation projects and teams in government find designers with a flexible sense of the application of design to help with the modelling and design of policy, program and organizations.

7. Readers consider developing a design capability within themselves, their committees and teams…and their students and children.

Please contact me at the following coordinates if you would like to discuss and develop this field of ideas.

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