There is more to governance than public candelabras:  
E-governance and Canada’s public service

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“Smart mobs consist of people who are able to act in concert even if they don’t know each other”

Howard Rheingold

Introduction

The Canadian federal public service is under stress. There are many reasons to believe that it is not performing economically, efficiently and effectively. For example, the federal public service is wasteful: it has four times more human resources personnel per employee than similar organizations in the private sector and it takes twice as much time to fill positions than other organizations (Privy Council Office 2001). Moreover there is evidence that it does not necessarily do its job right but rather capriciously in areas like health, and that it does not do the right things necessarily in areas like defense or in ensuring a balanced fiscal federalism (Paquet 2003a).

Observers and analysts have suggested that many of these difficulties can be eliminated by a better use of information and communication technologies (ICT). Indeed, for many techno-optimists, e-governance (hazily defined) has become a label used to connote good governance in an electronic environment, and has been holding the promise of unbounded progress in all realms of governance including government.

I do not share this reductive and utopian view: an ICT-enabled route does not suffice to achieve good governance. ICT makes possible new processes of coordination but the governance challenge cannot be met through the sole virtues of electronic information and communication devices. Indeed, ICTs, though making possible new information networks, have also weakened nation-states – their institutional order, their authority and legitimacy regimes (Rosenau and Singh 2002). This has triggered a need for quite different governance arrangements – arrangements that recognize a reduced role for the state and call for a refurbished and transformed public service capable of playing novel roles of brokers and animateurs.

Much hope has been built in Canada on the possibility of three significant initiatives being able to transform the federal public service over the next while to make it fit better with the new governance imperatives: first, some straight electronic retooling using the new information and communication technology to deliver services electronically but also connect all; second, some restructuring of the human resources management system of the Canadian federal public service; and third, some reframing of the governance per se via an ambitious attempt at imparting a massive cultural change to the federal government through the so-called “modern comptrollership” thrust. These initiatives are meant to shape the new governance of the public service as a complex adaptive system.

In this paper, first, I sketch briefly some of the features of the present turbulent environment and some of the major underlying drifts that have begun to transform the Canadian governance system over the last decade. Then, I define the federal public service as a complex adaptive system, examine the limitations that this state of affairs impose on what is feasible policy-wise, and suggest an analytical framework that might guide some useful bricolage -- for I surmise that this is the only sort of endeavor that is likely to make sense. This sets the stage for a critical examination of the three-pronged approach that has evolved in the recent past in Canada, and for the design of a successful strategy to deal with the major challenges facing the public service of Canada through the use of an ensemble of mechanisms likely to shape this network of networks.
The ground is in motion

The Canadian federal public service is operating in a turbulent world where many of the reference points are being redefined.

First it is operating more and more in a trans-national context where extraterritorial forces are playing an ever more influential role. Second, the role of the state in general is being eroded and its modes of operations are changing dramatically as governing comes to depend more and more on networks and communities of practice, and to entail a greater engagement (and therefore some sharing of power) not only among politicians and bureaucrats but also between them and many other stakeholders. Third, new information and communication technologies are making possible new connections and therefore new regimes of operation of the public service and new rules of engagement with the elected officials, the citizenry and the network of partners in the public, private and civic sectors. Fourth, the federal public service as an institution is faced by ever more informed citizens demanding services in an ever more effective and timely way; this requires a greater flexibility and more innovation in the dispatch of state functions; but the citizenry also demands more and more that the federal public service engage in extensive consultation and negotiation so that citizens can have a say not only on the sort of public services they want to receive but also in defining the process that government chooses to respond to their wants. Fifth, trust and confidence in public officials and institutions are quite low and falling as scandals and evidence of misuses of public funds and influence peddling accumulates.

It is difficult to determine which ones of these forces -- and there are many others -- have had and will have the most important impacts on Canadian governance for they interact in ways that make this whole nexus of forces much more potent than the sum of its parts. But they have transformed in major ways the context of Canada’s public service.

(a) from hierarchical government to distributed governance.

The management science approach to governing that characterized the last half century has been predicated on an unstated presumption that public, private and civic organizations were strongly directed by leaders who had a good understanding of their environment, of the future trends in the environment if nothing were done to modify it, of the inexorable rules of the game they had to put up with, and of the goals pursued by their own organization. Those were the days when the social sciences were still Newtonian, and pretended to explore a world of deterministic, well-behaved mechanical processes where causality was simple because the whole was the sum of the parts. In such a world, the coordination challenge was relatively simple: building on the well-defined goals of the organization, the game was to design the control mechanisms likely to guide it more or less independently where its leaders wanted it to be.

Many issues were clearly amenable to this approach, and many still are. But as the pace of change accelerated, and as the issues grew not just more complicated but more “complex”, private, public and civic organizations have been confronted more and more with “wicked problems” where goals are not clear and means-ends relationships are most uncertain (Rittel and Webber 1973). Such problems emerge naturally in complex adaptive systems (Holland 1995, 1999) where agents may act in manners that are not always predictable and their actions are interconnected in deep ways. As a result, non-linearities abound, novelty and emergent features are the new reality, and the organizational implications for governance are phenomenal: both the dynamics of organizations and the ways of exercising leadership by harnessing complexity are transformed (Axelrod and Cohen 1999). This is a Quantum world (Becker 1991).
In dealing with such problems, inquiry (in the Deweyan sense) can only mean "thinking and acting that originates in and aims at resolving a situation of uncertainty, doubt and puzzlement" (Schon 1995:82), and designing new ways to respond to such problems that depend on iffy mechanisms, experimentation and innovation.

For, in such times of change, organizations can only govern themselves by becoming capable of learning both what their goals are, and the means to reach them, as they proceed, by tapping the knowledge and information that active citizens possess, and by getting often the citizens themselves to invent ways out of the predicaments they are in. This leads to a more distributed governance that deprives the leader of his/her monopoly on the governing of the organization. For the organization to learn quickly, everyone must take part in the conversation, and bring forward each bit of knowledge and wisdom that he or she has that has a bearing on the issue (Paquet 1992, 1996-7; Webber 1993; Piore 1995).

Distributed governance does not mean only a process of dispersion of power toward localized decision-making within each broad sector (private, public, civic): it entails a dispersion of power over a wide variety of actors and groups within and among sectors because of the fact that it has been established that the best learning experience in a context of rapid change can be effected through (1) decentralized and flexible teams (2) woven by moral contracts and reciprocal obligations (3) negotiated in the context of evolving partnerships (4) bent on generating novel responses (Nohria and Eccles 1992; Paquet 1997a, 1999a; Schrage 2000).

In the transition from the present nation-state-dominated era to the newly emerging era of distributed governance and transversal coordination, there is a tendency for much devolution and decentralization of decision-making – i.e., for the meso-level units in polity, society and economy to become more prominent, and for the rules of the game of the emergent order to be couched in more informal terms. Moreover, the emergent properties of the new order (be it a public philosophy of subsidiarity, or another set of workable guiding principles) are likely to remain relatively unpredictable as one might expect in a neural-net-type model (Ziman 1991; Norgaard 1994; Paquet 1993, 1995).

This multi-layered governance structure is something very like a neural net of the kind found in a living brain: a layered system of many signal-processing units interacting in parallel within and between layers. This sort of system can learn (i.e., transform) in reaction to external stimuli, and develop a capacity for pattern recognition and for adaptation through experience. Indeed, the resiliency of the neural net (in the brain, in an organization, in an institutional order) is due to the redundancy of connections that allows the information flow to circumvent any hole or lesion (Burt 1992).

The new form of transversal coordination now in the making may not suffer as much as some fear from the loss of central control and the weakening of the national state imperium. A different sort of imperium, adapted to the network age, is emergent: reminiscent of the Roman empire under Hadrian, where the institutional order was a loose web of agreements to ensure compatibility among open networks (Guéhenno 1993).

(b) from egalitarianism to subsidiarity

One might stylize the drift in the philosophy of governance in Canada as a movement along a spectrum of institutional orders with one ideal-type at each end: from one rooted in the philosophy of egalitarianism and toward one rooted in the philosophy of subsidiarity (Paquet 1997b)
Egalitarianism has been a powerhouse in the institutional capitalist order for the last two centuries, but it has become particularly potent over the last fifty years. The rationale for this persistence stems from the difficult coexistence of the three crucial dimensions of our advanced economies: liberal capitalism, mass democracy, and a very unequal distribution of both material and symbolic resources. Inequalities breed discontent and subversion, and tend, so the argument goes, to undermine the legitimacy and the viability of both mass democracy and liberal capitalism. Consequently, some argue that an equity deficit demands that political action must be taken to contain the turbulence that is bound to erupt (Dahrendorf 1995).

Egalitarianism is clearly the general thrust of the top-down rights-based philosophy of governance that underpins the traditional welfare state. This philosophy argues that equalization of outcomes is a desirable objective, and imagines ways to provide each citizen, whatever his/her personal access to resources, an equal share of available resources.

Tocqueville has shown that "democratic peoples ... have an ardent, insatiable, eternal, invincible passion for equality; they want equality in freedom, and if they cannot obtain it in freedom, they want it in slavery" (Tocqueville 1840 II:104). Indeed, this egalitarianism that drives democracy is not an observed fact, it is an ideal, an "imaginary equality" (II:189).

Democratic egalitarianism attempts to construct a corrective for de facto inequalities through redistribution. So, democratic egalitarianism (in society) generates compulsive centralism (in the polity) - to redistribute resources, one has to bring them to the center first - and this centralism generates growing shackles on the productive capacity of the economic system (Hirsch 1976; Paquet 1996).

This imaginary equality is an ideal. It has never been realized. Moreover, as Tocqueville noted, it is in the nature of egalitarianism that "the desire for equality becomes more insatiable the greater the degree of equality" (II:144) and the coexistence between the decreed egalitarian rights faced with considerable and even increasing inequalities in real life can only lead to resentment (Laurent and Paquet 1991, 1998).

Thus the welfare state has found itself in a vicious circle: it became more expensive in fiscal and centralization terms to effect a redistribution that, instead of reducing frustration, exacerbated it.

As a result, the social security compact has come under attack. At first, these attacks on the legitimacy of the social security arrangements were simply countered by technological adjustments of the existing mechanisms. It is only in the 1990s that Canada was forced, by its fiscal crisis, to question the old philosophy of governance based on egalitarianism. Although elements of a new philosophy of governance, of a new compass, are visible in the fabric of Program Review, there has not yet been a fundamental public debate of consequence around this new compass. This is due to the lack of taste by Canadians for fundamental debates (Paquet 2003b).

The new compass is a philosophy of subsidiarity, built on the centrality of active citizens who have to take primary responsibility for their own welfare and the welfare of their families. The authority of governments to intervene is not based on any rights or entitlements ordained by governments from above, but stems from the citizens' needs for help. Thus governments act in a subsidiary way, in the same way a reserve army intervenes in case of need.

This new governance system calls also for decisions to be made at the lowest, most local level at which decisions can reasonably and effectively be made (starting with the citizen as such).
task of the higher order of government (regional, federal, etc.) is to assist and support the individual and the more local body in carrying out their tasks (Paquet 1994).

The six questions addressed by the Program Review process to each federal program are inspired by the philosophy of subsidiarity, although the word is never used. They try to establish whether government should get involved at all and whether, if governments should be involved, any lower order government or not-for-profit agency, or even a strategic alliance of many of them might not do the job better. To these governance questions, the Program Review adds questions of efficiency and affordability. The governance-efficiency-affordability considerations are dealt with as a whole (Paquet and Shepherd 1996).

This new philosophy provides a rationale for the construction of a new institutional order: one where governance will be based on needs rather than rights, bottom up rather than top down, more distributed and decentralized than the old governance system. Consequently, the new social security compact that will ensue will be pluralistic: it will vary from region to region depending on resources, values, and preferences.

The dual shift – from government to governance and from egalitarianism to subsidiarity – is in the process of subverting quite significantly the Canadian socio-technical system. But such subversion has also led to a mammoth ideological backlash that has fed a wave of “dynamic conservatism” (Schön 1971). This dynamic conservatism has taken many forms: simple denial of these emergent phenomena, refusal to explore their implications for Canada’s social technology of collective intelligence and social learning, and even, at times, aggressive rearguard strategies by welfare state ideologues to make the highest and best use (to the point of verging on disinformation) of public inquiries platforms and private polling as instruments to bolster the old ideology of government and egalitarianism even in the face of both their erosion and of the futility of the policies they staunchly defend (Paquet 2000a, b; Mendelsohn 2003).

(c) new forms of collective intelligence and social learning

This dynamic conservatism explains why the third pattern of change – the new importance of non-state actors, networks, and self-organization in collective intelligence, collective action and social learning – has been slow to coalesce. Especially since the Second World War, the state has played such a dominant role in defining collective action that (1) observers have not paid much attention to the less than perfect marksmanship of the state; (2) citizens have been unduly easy to persuade that only the state can provide the requisite security of supply of essential services; (3) the slow growth of alternative ways invented by communities as responses to what they felt were collective needs not attended to satisfactorily by the state has gone largely unnoticed and has remained somewhat “illegitimate”.

New forms of collective intelligence and social learning have consequently emerged rather slowly and remain the target of attacks by phalanxes of undeterred “social democrats”.

Such initiatives grew obviously where the state was most indolent or had failed to exercise due diligence. Environmental issues pertaining to the long run may be regarded as a prime example. But as the fiscal crisis forced the state to review critically its involvement in various files and to bring certain initiatives to an end, much of a coordination vacuum was created that called for alternative modes of governance. In portions of Canada where the civil society was vibrant, there has been a flurry of new initiatives blending private, public and civic energies. As a result collective intelligence and social learning congealed in different ways. Where civil society was
less vibrant, the capacity to develop alternative ways has been somewhat stunted or has run into a variety of blockages (Paquet 1999b).

The drifts toward distributed governance and a philosophy of subsidiarity have heightened the pressure for communities and meso-organizations to become smart, i.e. to develop the capacity to mobilize competences effectively, to probe, to learn, to overcome, to innovate (Lévy 1994) in order in part to supplement and in part to substitute for top-down state coordination. But a multitude of blockages need to be removed for the appropriate ecology of governance to evolve.

Learning entails "the mutually consistent interpretation of information that is not fully codified, and hence not fully capable of being transmitted, understood, and utilized independently of the actual agents who are developing and using it" (Storper 1996:259). Knowledge is dispersed, and exists in a form that is not fully codified: this is a fundamental constraint imposed on the highest and best use of collective intelligence and on effective learning. This poses three challenges.

The first central challenge is to determine how such knowledge can be made explicit, and can be more effectively tapped and shared. This is a process that has been explored most creatively by Michael Polanyi (1964, 1966) and aptly synthesized by Gill (2000): cognitivity proceeds from tacit knowing (bodily and subsidiary absorption of knowledge) as a person or community or organization is involved in other more focused activities mobilizing their awareness, toward an explicit knowing, through processes that improve the awareness of this tacit knowledge by bringing it into focus, and helping to transform it in a conceptual form that is likely to facilitate its dissemination.

The second challenge is to define mutually coherent expectations and common guideposts for partners who have quite different visions of the world and frames of reference. The central challenge of collective intelligence often amounts to finding useful ways to effect such agreements on common guideposts in an oblique way, so as to avoid activating powerful defense mechanisms of those parties who have different frames of reference (and often fear some power loss as a result of reframing, and therefore are likely to resist any effort to reframe the situation) (Schön and Rein 1994). Often these oblique strategies may be embedded in some innocuous reporting procedure that requires some dialogue, and results in some significant and surprising subsequent reframing, because of the very non-threatening nature of the process (Juillet, Paquet, Scala 2000).

Making knowledge explicit and resolving the frame differences fosters communication and learning, but it does not ensure that a community will learn fast and become smarter. The social learning processes are based on good use of collective intelligence, but the existence of collective intelligence is only a necessary and not a sufficient condition for social learning.

The third challenge is to ensure that the cycle of social learning works smoothly. This cycle has been stylized by Max Boisot in a three-dimensional space – the information space – which identifies an organizational system in terms of the degree of abstraction, codification, and diffusion of the information flows within it.

This three-dimensional space defines three continua: the farther away from the origin on the vertical axis, the more the information is codified (i.e., the more its form is clarified, stylized and simplified); the farther away from the origin laterally eastward, the more widely the information is diffused and shared; and the farther away from the origin laterally westward, the more abstract the information is (i.e., the more general the categories in use) (Boisot 1995). Within the cube, Boisot captures the two phases (with three steps in each phase) of the processes of production and
diffusion of information in organizational learning: phase I emphasizes the cognitive dimensions of the cycle, phase II the diffusion of the new information.

In phase I, learning begins with some scanning of the environment – and of the concrete information widely diffused and known – in order to detect anomalies and paradoxes. Following this first step (s), one is led in step 2 to stylize the problem (p) posed by the anomalies and paradoxes in a language of problem solution; the third step of phase I purports to generalize the solution found to the more specific issue to a broader family of problems through a process of abstraction (at).

In phase II, the new knowledge is diffused (d) to a larger community of persons or groups in step 4. Then, there is a process of absorption (ar) of this new knowledge by the population, and its assimilation so as to become part of the tacit stock of knowledge in step 5. In step 6, the new knowledge is not only absorbed, but has an impact (i) on the concrete practices and artefacts of the group or community.

In Figure 1, one can identify the different blockages through the social learning cycle: in Phase I, cognitive dissonance in (s) may prevent the anomalies from being noted, epistemic inhibitions of all sorts in (p) may stop the process of translation into a language of problem solution, blockages preventing the generalization of the new knowledge because of the problem definition being encapsulated within the *hic et nunc* (at) may keep the new knowledge from acquiring the most effective degree of generality; in Phase II, the new knowledge may not get the appropriate diffusion because of property rights (d) or because of certain values or very strong dynamic conservatism which may generate a refusal to listen by those most likely to profit from the new knowledge (ar) or because of difficulties in finding ways to incorporate the new knowledge (i).

These three families of mechanisms are integrally interconnected. And it would be unwise to argue that one is more important than any other (Paquet 2001).

* * *

These three patterns of change pose significant challenges to Canada’s public service and in particular to the federal public service. As governments and states see their role and the whole philosophy of egalitarianism eroded, the public service has to re-invent itself in order to be able to play the very key role of catalyst in the new distributed governance regime. This entails a transformation of the role of public servants from agents of political potentates to agents of collective intelligence and social learning, i.e., agents of knowledge dissemination, frame reconciliation, and effective energizers and catalysts of the social learning cycle.

But this re-invention of the public service cannot be ordained by fiat. The public service is, very much like the broader socio-economic environment, a game without a master. Its evolution and adaptation to the new context are neither going to materialize organically nor going to be ordained from higher up. They will materialize in a differentiated way as a result of both the external forces and the inner dynamics of the public service as complex adaptive system.
FIGURE 1

Learning cycle and potential blockages.
The public service as a complex adaptive system

The challenge of creating a smart public service is the challenge of creating a smart mob capable of (1) ensuring some coherence within the public sector interventions, (2) contributing in a meaningful way to the effective coordination among the private, public and civic sectors and in the overall socio-technical system called Canada, and (3) fostering collective intelligence and social learning in Canada (Rheingold 2002).

But the governance of smart mobs requires a good appreciation of the dynamics of mobs. Too often the public service is perceived both as a lump of somewhat homogeneous and “higher quality” labour and as an integrated hierarchical bureaucratic organization responding to directives uttered in a precise way by omniscient leaders. This sort of vision of the world according to Westminster has been a fixture of most of the discussions of public service and public service reforms over the last decades.

It is my view that this image is deeply flawed. The public service is not an undifferentiated lump of labour endowed with special quality or virtue, and it is not a simple instrument in the hands of omniscient politicians. Rather it is (1) a very complex and messy network of networks and differentiated communities of practice (2) engaged in a great variety of quite diverse tasks (3) responding to ill-defined demands from politicians and other stakeholders (4) while pursuing at the same time their own more or less well defined interests. This is done in a fumbling and evolving sort of way. In a few words, the public service is a complex adaptive system.

This entails that (1) one cannot reasonably probe the role of the public service in isolation of the other two sectors (private and civic) and of their broad environment, and public service reforms can only be gauged appropriately if one adopts such a broad perspective; (2) only a review of the division of labour among the three sectors (and among a variety of mixed organization forms blending them somewhat) holds promises of meaningful reforms; and (3) such reforms must first get rid of a fixation in good currency within the political science community – the Jane Jacobs syndrome – according to which (a) one needs to take into account only the public (guardian) and the private (commercial) sectors; (b) there is a difference of kind between the “holy” public sector and the “less holy” private sector; and (c) any form of metissage or mixed private-public-civic organization can only produce “monstrous hybrids” (Jacobs 1992).

This latter nonsensical Manichean credo is not only used as an axiom by those apostles of dynamic conservatism defending the preservation of the status quo but is even currently used to explain away the corruption and “ethical malaise” within the public service: supposedly, according to eminent political scientists, they are due to such metissage – the public service having been infected by the private sector ethos (May 2003). This feeds not only a nostalgic longing for the good old days of the Westminster regime but also a policy of denial of the new realities and of perpetuation of the philosophy of centralized top-down government (rendered essential by the egalitarian imperative) where the public service would revert to its old passive role of by-definition honest servant of the by-definition honest elected officials.

The world of the public service is not usefully analyzed through such naïve ideological lenses.

(a) complex adaptive system

In a complex adaptive system (CAS), agents have the freedom to act in ways that are not always predictable, and their actions are interconnected in such a way that one agent’s actions change the context for other agents. This generates the emergence of systems with particular properties:
non-linearity, non-predictability in detail, self-organization, co-evolution, etc. Such systems cannot be designed in a deterministic way since an improved performance is most likely to emerge through bottom-up innovation.

In the best of all worlds, simple rules (general direction pointing, prohibitions, resource or permission providing) may succeed in generating coordination of a complex sort. This is the case in complex animal societies that have been analyzed carefully (Resnick 1994). But both the complexity of the human socio-technical systems and our degree of ignorance about their dynamics are such that, for the time being at least, we may at best experiment with a view to gaining a better sense of what is emerging as we go along, and thereby acquiring a possibility to influence its evolution.

This does not mean that one cannot intervene in a meaningful way in such systems, but this must be done in a tentative and experimental way in full cognizance of the fact that one is tinkering with a system that has both a strong self-organizing tonus and a significant capacity for dynamic conservatism. These are bound to frustrate attempts at sweeping fundamental reforms.

The Canadian public service is a complex adaptive system. Consequently, it poses “complex” challenges to its potential reformers.

There are fundamental differences among (1) simple problems (calling for nothing more than following as recipe), (2) complicated problems (like sending a rocket to the moon as an ensemble of simple problems but not reducible to them and calling for high level of expertise in a variety of fields), and (3) complex problems (like raising a child with large elements of ambiguity and uncertainty, interdependency, non-linearity, calling for an understanding of unique local conditions and a capacity to adapt as conditions change) (Glouberman and Zimmerman 2002).

It may be that at other times in history the problems faced by public servants (within the public service or in interaction with their environment) were simple or merely complicated, but they are now complex. In that sense, the problems faced by public servants are very similar to those faced by actors operating in the health care system: the issues are intermingled in a fundamental way and do not lend themselves to separate treatments. The context resembles much less a layer-cake than a marble cake (Taylor 1978: xvi).

This entails that any change or modification of the public service must take into account its interaction with the broader environment, recognize that any “solution” must be part of the system, take into account that structures and relationships are interactive, and that one must build on adaptive and emergent outcomes, on feedback loops, i.e., on much collective intelligence and social learning. Indeed, health care systems have often been stewarded in a much more effective way in countries other than Canada because of a certain fixation in Canadian circles on dealing with problems as if they were only machine-like complicated instead of tackling them as the life-like complex issues they are (Glouberman and Zimmerman 2002; Paquet 2003a: ch. 11).

(b) Emergence

Such an image of the public service suggests that, instead of presuming that one knows enough to modify or redefine mechanically the ways the system works in toto or that simple ICT retooling will do the job, one has to build on the fact that the system has much self-organizing capabilities and that these “organic forces” have to be mobilized if meaningful reform is to ensue. This is the way vaccination works.
Taking advantage of these organic and emergence forces means living with complexity and harnessing it. This perspective is predicated on an acknowledgement of our ignorance: this is the reason why massive mechanical interventions often prove futile, while relatively small interventions making the highest and best use of the inner dynamics of the system may be surprisingly effective. These paradoxical results are ascribable to the lesser or better way of taking into account the reactions of mutually adaptive players to interventions that promote (or not) effective adaptation, fruitful interactions, and powerful social learning. Since one does not know enough to “control” the system, one can at best provoke experimentally some variation, interaction and selection processes by thoughtful interventions (Axelrod and Cohen 1999:xv).

These thoughtful interventions may attempt to modify the time horizon of actors, to accelerate the process of social learning, to tinker with interaction patterns by modifying proximity and space, or to exercise leadership by creating shared space or forums, by sharpening performance measurement and helping to catalyze better selection of agents and strategies. But in all these interventions, it must be understood that what can be expected at best is to stimulate and excite the complex adaptive system without any guarantee that the desired outcome will be reached. Reform must accompany the system and not try to remake it: muddling through and bricolage are thus more valuable than disruptive and so-called transformative restructuring.

In ascertaining the sort of intervention that might be most helpful in the case of the public service, one may derive some guidance from the examination of interventions in the health care system as a complex adaptive system.

What has been proposed in the case of the health care system is less a complete revamping of the system than (1) a multiplication of access and information points, (2) more transparency about waiting time, (3) multiple service lines within emergency rooms, (4) increase support for carers and self-carers, etc. (Glouberman and Zimmerman 2002: 24). On the supply side, this has translated into reward for differentiated knowledge, respect for complementary professional perspectives, no disruption of a workable division of labour, etc.

The equivalent strategy for the public service must start with acknowledging the balkanization of the public service into a great variety of groups and networks that have little in common. Such differentiation would appear to require a commensurate governance system, i.e., a differentiated ecology of governance regimes. Then the next challenge would be to identify particularly effective tipping points capable of triggering the equivalence of epidemics and of ways in which one might intervene to make full use of the power of context (Gladwell 2000). This calls for interventions on the “ecology of governance” – “many different systems and different kinds of systems interacting with one another, like the multiple organisms in an eco-system. This won’t necessarily be neat, peaceful, stable and efficient; despite what some nature lovers may believe, ecosystems aren’t necessarily neat, peaceful, stable and efficient either... (they are in) a continual process of learning and changing and responding to feedback” (Anderson 2001:252).

While better connectedness or more connections can make a difference by triggering some realignments in networks and some potential changes in the ways they might be regulated, they are not necessarily likely to transform the system per se. To do so, one needs to count on the cumulative and often unanticipated effects of this set of external forces in conjunction with the inner dynamics of the system to disturb the ecology of governance that prevails, while not disrupting ongoing messy but effective practices.
(c) An analytical framework for subversive bricolage

In the absence of a general theory of emergence, the best one can hope for is an approach to governance through the lens of underpinning mechanisms: identifying ways that might influence the emergence process by interfering with a subset of mechanisms underpinning certain key ligatures in the governance process, or designing ways to fill the gaps created by missing mechanisms preventing these ligatures to work well.

Our provisional picture of the governance process is sketched in terms of four broad sets of ligatures: partnering (P), leadership (L), accountabilities (A), and the nexus of control, enaction and stewardship (CES) underpinning the self-steering and learning system, and ensuring that collective intelligence and social learning work well. These ligatures are rooted in a variety of interacting sub-components – principles, structures, processes, mechanisms, culture and rules.

The families of ligatures needed for effective governance are not exhausted by PLACES, and the sub-components of each of these ligatures are not exhausted either by our list of bonds. However, the interfaces revealed by this provisional framework throw some light on the major sources of blockages and pathologies: crucial mechanisms and missing mechanisms.

While the other sub-components are important, and indeed might be much more powerful instruments of change if they were useable, they are often less susceptible to effective intervention. This is why we have been led to focus especially on mechanisms or processes as the key levers for subversive intervention.

### Table 1

An analytical framework for subversive intervention

<table>
<thead>
<tr>
<th>Partnering</th>
<th>Leadership</th>
<th>Accountabilities</th>
<th>Control, enaction &amp; stewardship</th>
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<tr>
<td>Principles</td>
<td>Structures</td>
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<td>Mechanisms</td>
<td>Culture</td>
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Why this focus on mechanisms?

Potentially, the new ICTs can have an impact on the whole framework. They are bound to modify each of the four basic ligatures and probably most of the sub-components. Partnering and leadership will become more diffuse, accountabilities more complex, and the control/enaction/stewardship forms more fuzzy and subtle. Yet one would be hard put to predict the exact nature of the new forms these ligatures might take in particular sectors. Whether the relative role of parliamentarians will increase or not, whether the citizens will be more manipulated or more listened to, whether there will be more centralization or decentralization – this is unpredictable.

Yet one may want to influence these trends and there may be a wide variety of ways in which one might want to tinker with them.

The boldest strategy may aim at transforming directly principles and structures. This sort of reframing strategy is however unlikely to work for most of the time it purports to ordain a fundamental cultural change, and we do not know really how to perform such tasks.

This approach of necessity focuses on broad principles that give birth to much evasive thinking for there is no way to impose structures that carry out the actions called for by these principles and values. As a result, this approach takes the high ground (values, rights, equality, and the like) but yield very weak results except suggestions for more intrusive state actions, public infrastructures and regulations, and the like that are fraught with dangers of making our digital society Orwellian.

A second approach focuses on culture and rules and attempts to modify the ethos and the rules of the game in order to modify behavior and mores. Again, this requires a much deeper knowledge of the dos and donts than what can reasonably be claimed at this time.

So this second approach is again both unduly ambitious and unlikely to succeed because it purports to modify directly habituated behavior through sermons. It minimizes significantly the depth and power of culture, and falls prey to the belief that one can modify such things easily and in a system-wide way. Such revolutions are possible and indeed have occurred, but we have no conceptual framework capable of guiding interventions leading to this sort of transformations.

While new principles, new structures, new rules and new cultures can be dreamed about, they cannot be inoculated into the system at this time given our state of knowledge. They represent naïve “ultrasolutions” that are neither intellectually sound nor operationally workable nor likely to generate anything but disasters (Watzlawick 1988). All this is likely to end up as wishful thinking and to leave the socio-technical system unchanged.

A third approach focuses rather on processes and mechanisms. Even at that level, the difficulty faced by efforts to re-engineer processes suggests that one might require a much better grasp of the socio-technical system than is currently the case. So, one is forced to fall back modestly on mechanisms as the only real operational lever at hand. Yet mechanisms are unreliable since they may either work or not, or work one way or another (Elster 1989).

The reliance on mechanisms is most uncomfortable because they are most unreliable levers. They are at best an array of experimental devices put forth in the hope that they might facilitate the “evolution” and “learning” processes. One may intervene in designing promising mechanisms under each of the broad ligatures – mechanisms likely to promote new partnerships through fostering dynamic proximities and better commutation, new forms of leadership by increasing
trust, refurbished horizontal and transversal accountabilities, and transformed CES control and learning systems. These possibilities have a single feature in common: they are meant to destabilize the whole system through the introduction of mechanisms likely to eliminate blockages or to create new passage ways where none existed before.

An appraisal of the three-pronged approach

Yet it would be unwise to think that utopian approaches – because they are unpromising – are going to be avoided as a matter of course. Quite the reverse: their simplicity has a great appeal. It is much easier to deny that the problem exists or to wish that the problem will be disappeared through grand schemes than to deal with tedious challenges at the mechanisms level. This explains why there has been a preference for tackling the challenges of e-governance at a most abstract level through white papers or solemn declarations based on charters, principles, rights, tutti frutti.

The Canadian government to its credit has not fallen into this academic well. It has attempted to develop a three-pronged modification of the institutions in place that has been rather low-brow and has never really been conceived as a “broad approach”; it has been largely improvised and intervened piecemeal. Moreover, in each of the three chantiers, work is still in progress. So any appraisal of the results of such a baroque approach is perilous and must remain tentative.

This being said, an approach based on mechanisms is not necessarily successful. First, such initiatives may well be ill-advised and may therefore lead dysfunctional results. Second, there are reasons to believe that even if the initiatives are wise, they will be subversive enough to trigger strong negative reactions both to the initiatives themselves and to the spirit of experimentation that has inspired them. Social learning is indeed constantly tamed, mauled and constrained by the old spirit of control and standardization. Consequently, despite the possibilities generated by the new initiatives, the likelihood that they will be stunted is real. Therefore much efforts must be invested in preserving the unfinishedness of these initiatives so that they are not allowed to crystallize too quickly into what would be an unfortunate form that would remain much too dominated by the spirit of the old government philosophy.

(a) GOL as retooling

The whole effort at putting government on line (GOL) has been presented as a way to provide government services more cheaply and more efficiently. While electronic service delivery was the prime mover, a purported subsidiary role of GOL has been to modify government so as to make it more capable of allowing the citizenry to have an impact on collective decision making not only through inclusion in deliberation (consultation, facilitation) but through a genuine direct participation enhancing the capacity for active citizenship (Allen et al 2001).

GOL has succeeded in ensuring increased electronic service delivery but has failed to generate fundamental changes in the governance regime. What it has triggered is the emergence of a sort of IKEA State where citizens, like the customers of IKEA, are asked to shoulder a greater part the cost of delivering public services. Consequently, while the promise that all government services will be on line soon will undoubtedly ensure some greater ease of access to government services by citizens, it may also, and more importantly, entail that there will be a shift of the cost burden of service delivery toward the citizen. This can hardly be regarded as sufficient for the governance regime to change. All the more so since citizens are unlikely to experience any greater trust in government as a result of this initiative.
The strong degree of inertia and dynamic conservatism embedded in the present administrative culture is also quite likely to succeed in mobilizing GOL in support of traditional hierarchy-based structures. The new ICTs are providing important new possibilities of command, control and standardization, and for strengthening the traditional vertical accountabilities of the Westminster model, and providing comfort to the existing centralizing mindset. This might well lead to the implantation of strategic infrastructures unduly respectful of vertical accountabilities and somewhat insensitive to the new needs for horizontal coordination. Invoking the principle of ministerial accountability as the super sacred cow may indeed succeed in both marginalizing other elected officials like the members of parliament and immunizing the current governing bureaucratic arrangements from being undermined by the new technologies.

(b) HR modernization as restructuring

The new bill C-25 has been an initiative to tinker with the public service. It is not a direct response to ICTs but aims at modernizing human resources management for the digital age. It provides for a centralization of training and learning, and for a streamlining of labour-management relations. It strengthens the role of the employer, reduces the involvement of the judiciary, and redefines merit in a way that lightens the burden of the proof of the employer. In the future, it will be sufficient to prove that the person chosen is competent to do the job and not that it is the best qualified to do so.

However, the new bill leaves much of the old sacred cows in place: permanence, non-partisanship, and the like. This may freeze the public service in a pre-e-governance regime.

There is some echo in the new bill – that represents the result of years of internal debates and equivocation -- of the shift from government to governance, and of the need for government to become more nimble and more collaborative. But the bill would appear to focus mainly on fixing the cart of public management without really modernizing the horse of public administration (Hubbard 2003).

Bill C-25 acknowledges the public service as de facto a heterogeneous and fragmented reality that cannot be dramatically modernized as long as it is regarded as homogeneous. But its very slight move toward empowering local managers is a quite timid compromise: it is too little in certain spheres to allow the required differentiation to emerge and probably likely to produce undue patronage in other spheres. The seduction of considering the public service as a single lump of labour, very much like the glamour of a utopian one-size-fits-all universal classification system that was occupying the center of the stage in Canada a few years back, remains very strong: it is an echo effect of the dominant Taylorian logic and is likely to strengthen the hierarchical structure.

Despite the language of partnership and networks that has become popular as a result of the possibilities of new connectedness, the cosmology that underpins most of the debates about human resources is still firmly anchored in a traditional state-centric and hierarchy-rooted vision of the world: very little goes beyond more regulation and timid empowerment. In that sense, the recent developments made possible by the new technologies have not only not helped in the development of an emerging – but only slowly emerging – new cosmology, but they may have triggered a move backward. Under the guise of a modern public management, what is strongly reasserted is the dominium of the PCO vision of top down ministerial government and vertically accountable public servants (Lindquist and Paquet 2000).
(c) Modern comptrollership as reframing

Modern comptrollership is probably the most important and the most promising piece of tinkering with governance issues. It deals more directly with the way in which the country might be better governed if government operated differently. It does not tackle “governance” head on but only the way “government” operates within a more or less given governance process. It is also an exercise that would appear to be conducted in isolation from the GOL and HR modernization exercises although there are signs that these initiatives might soon all end up being quartered by the Treasury Board Secretariat.

This massive undertaking to change the culture of close to 100 departments and agencies focuses on four pillars or families of mechanisms dealing with information integration, risk management, appropriate internal control, and values and ethics. Each department and unit is asked to gauge its performance according to certain benchmarked expectations on each of these four fronts and to develop some initiatives focusing on the different pillars. But each agency is allowed to start with its own diagnosis of what front requires priority attention and what approach might best fit the needs of each unit. Most of the units involved in the pilot projects have focused on risk management and ethics, but they have been allowed to develop their initiatives based on their own preferences and on their different ethos. Some have revealed a highly centralized mindset, others a preference for formality, etc. (Schacter and Crookall 2003).

What is important in this process is not what has been accomplished to date but rather the spirit of experimentation that has been allowed to prevail at Treasury Board in an exercise that had originally all the hallmarks (even in its labeling) of a top-down enforcement of standards and of a power grab by central agencies in the aftermath of the HRDC “scandal”.

The other two pillars may allow less of a centrifugal approach. For instance, the rather innocuous but powerful dimension of information integration, and the residual and menacing dimension of requisite control (even under the label of stewardship) may lead to sub-initiatives that might be fundamentally centripetal and to a subversion of the process in favor of the centralizing and hierarchical modus operandi observed earlier. But for the time being the experiments have been allowed to proceed in such a way that modern comptrollership has become the basis of a broad new philosophy of governance in the public sector permitting a wide range of different experiments, rather than an all out effort to re-assert a command and control mentality and to impose homogeneous manières de faire.

* * *

If the prospective outcomes of these three policy strands remain quite uncertain and unclear at this point in time – with modern comptrollership being the most promising one – this basket of initiatives is likely to remain insufficient to trigger the emergence of a transformed Canadian governance system. This is the case for many reasons: (1) because of the fact that these initiatives have focused in an unduly narrow way on the sole public sector; (2) because of the very strong power of the traditional administrative culture that has blocked, neutralized or attenuated the impact of the transformations generated; and (3) because of the robust ideological opposition of segments of the intelligentsia and of the public administration establishment to allowing such initiatives to follow their course for fear that they might undermine the dominion of the state and the state-centric institutional order. In particular, this robust ideological resistance to the governance problematique as such (as too too subversive) has been much underestimated (Paquet 2003c).
What might a successful reform look like?

What is required is a set of reforms (1) going much beyond digital government, (2) tackling directly the machinery and technologies of governance as they apply to the private, public and civic sectors and the relationships among them, and (3) identifying both the new roles and the shape of the public service in this reformed regime. Moreover, such reforms can succeed only if they are the result of a process of experimentation making the highest and best use of the tonus of the public service as complex adaptive system.

To initiate such changes, it is crucial to build on three new inter-related strategies making use of three important degrees of freedom: the mechanisms designed to ease the emergence of a new cosmology, the mechanisms ensuring requisite variety, and the new innovative organizational mechanisms likely to yield the required effective coordination – of which chaords and prototypes are the most important.

(a) A new cosmology focusing on governance not government

Most of the discussions of e-governance have been guilty of false representation.

These discussions have dealt largely with e-government. Governments have been searching for ways to make the highest and best use of new technologies on the assumptions that (1) government were still living in a Newtonian world, (2) it could maintain some mastery of the whole socio-technical process, and (3) it knew enough to identify the wrongs and right them.

These three assumptions have proved blatantly wrong. Consequently the debate must be grounded in a new cosmology.

We have shown clearly in the first section of the paper that the ground is in motion, that our socio-technical system is drifting toward a new regime based on distributed governance, subsidiarity and social learning, and that interventions to modify and improve the performance of this system must recognize its Quantum nature. This means a reframing of the way in which one may intervene: the need to recognize the fundamental complexity of the socio-technical systems we operate with, our limited capacity to influence them, and the great power of context when we are trying to tinker with them.

Secondly, too much emphasis has been put on the e of e-government and little or no attention has been paid to the complexity and required differentiation of the organizational forms that the new context calls for. As a result, the expression e-governance has been hollowed out of its substance: it is not dealing with governance at all but only with the seductions of ICTs.

Distributed governance is not about electronic devices but about relationships, networks and partnerships. It calls for the collaboration of stakeholders. But the pattern of relevant parties is not the same in the different sub-realms of our socio-technical systems. The nexus of arrangements necessary in health or education is most unlikely to be the same as those required in the agri-food system or in the world of defense and security. Consequently, a high degree of decentralization and fragmentation of the socio-technical system is required to ensure the needed multistability and resilience, and much emphasis must be put on different technologies of collaboration in these different sub-games without a master.

The fact that we are facing many sub-games without masters does not mean that government has no role in the new governance. National realities are resilient but it does not mean that there is a
permanence or a similarity to the role of the nation-state in these different realms. The considerable strength of the macro “border effect” should not be misconstrued as the result of an homogeneizing policy apparatus but as an echo effect of the vibrancy of differentiated networks (Helliwell 2002).

A particularly good example of the mal appropriation of the term e-governance is Nicholas Rengger’s document for the Scottish Council Foundation (Rengger 1999). Its title E-governance is followed by the sub-title – Democracy, technology and the public realm. Rengger then proceeds to discuss nothing but government in the digital age. It is presumed that the sort of control (renamed stewardship) required by government to avoid chaos is such a central feature of any successful socio-technical system that no one should be presumed to question its centrality. As a result, the initiatives developed end up calling simply for modifications in the state legal or regulatory framework as a way to ensure order.

Thirdly, the assumption that we may not know enough to proceed by edicts with any hope of success is never clearly faced. It calls for an act of modesty on the part of policy scientists that they are not prone to volunteer.

Social scientists in general, and policy scientists in particular, are very vulnerable to the syndrome denounced by H.L. Mencken’s meta-law that “for every human problem, there is a neat simple solution; and it is always wrong”. This was always true, but it has become truer of late. And it would appear that the search for “ultra-solutions” – i.e., overall, comprehensive definitive solutions that not only get rid of the problem but of everything else – has become quite popular (Watzlawick 1988).

This is an aspect of “social sciences as sorcery” (Andreski 1974). Instead of recognizing the complexity of the issues, there has been a tendency to simplify unduly the nature of the problems and to take the high ground in suggesting state-centric initiatives as panaceas. Such approaches end up building on charters of rights and legislations that are nothing but feel-good ultra-solutions that have no possible way to transform governance in practice. A pragmatic approach to these issues would have to work through more complex tinkering.

There is no simple mechanism to trigger a switch in cosmology but there are ways to prevent being encapsulated in the old one. This is why one has to ensure that (1) debates do not focus on digital government, (2) actionable initiatives are not relying exclusively on state action, and (3) new mechanisms are broadly based on a philosophy of subsidiarity.

This explains both the unease of all the informed observers about the reduction of e-governance to e-government, and the reduction of the challenges of digital government to issues of politics (equality, rights, citizenship, democracy, etc.) requiring sweeping wide-ranging state intervention.

The organizational renewal made possible by the new ICTs is best guided by the network paradigm and pertains to the three sectors – private, public, civic. This calls for the maximal use of local unconstrained decision-making and the minimal use of coercion. Consequently the test to be imposed on any proposed mechanism is: might there be an alternative mechanism that might work as well while devolving decision-making to a lower and more local level while being less coercive? This simple test, if applied seriously – as Program Review indicated – would lead to the replacement of a major portion of the existing social technology of Canadian federalism and to the emergence of a greater variety of institutional and organizational arrangements.
(b) Requisite variety and the centrality of missing mechanisms

In the case of the public service, there is such variety in the socio-technical systems one wants to influence that this calls for interventions recognizing this variety and building on it. The Canadian public service is a network of networks that cannot be revamped without interventions that recognize the fundamental diversity of the components, the need to delegate decisions to the local level as much as possible, and the recognition that one might have to be satisfied in the short run with removing the diverse local/sectoral blockages preventing the different sub-systems to perform well.

Acknowledging the importance of Ashby’s law of requisite variety entails recognizing that the complexity of the behavioral repertoire of any governance regime must be as rich as that of the system being regulated (Ashby 1960). Consequently, given the complexity of the sub-systems we are faced with, nothing but multifaceted arrangements have a chance to succeed. Hoping to resolve such problems by a simple rule is most of the time presumptuously ineffective. Subsidiarity may provide a general direction but it is very much like 16th century maps – elegant but not very helpful to navigation.

This pluralistic approach to public service reform calls for an emphasis on meso-analysis – i.e., on a focus on local/sectoral dimensions.

For years, Ruth Hubbard as President of the Public Service Commission has suggested that one might want – for practical purposes – to break down the public service in three broad concentric circles: the innermost one (A) represents a very small number of public servants, at the heart of government, driven and bound in their daily practice by the core values of public administration – loyalty to the public good and the public trust, speaking truth to power, etc.; the outermost circle (C) is the largest and is occupied with a multitude of workers dealing with service delivery that may easily be delegated to non-state parties; in between is a sizeable group (B) that straddles the two situations and require different rules to maintain the mix of public administration and management required (Hubbard 2003).

It is absurd to deal with these three layers of public servants in the same manner: the degree of commitment to the public good, the mechanisms of recruitment, the degree of permanency or non-partisanship required, etc. may vary widely from one sector to the other within the public service or from one area to the other within the realm of public administration. Consequently, intervening in these networks may have to be quite different from one layer to the next and from one zone to the next.

Transparency and competition may be sufficient to deal most effectively with the personnel of the outer layer, and with agencies whose personnel is almost entirely located there; designing particular forums, moral contracts or detailed performance arrangements may be essential for the inner layer, and with agencies where the professional personnel of agencies (like PCO) is almost exclusively located at the core by definition; finally very diverse mixed regimes are necessary to deal with the variety of groups in the intermediate layer depending on the area or policy field.

No homogeneous governing structure is likely to be optimal across the board because the basic systemic characteristics of networks vary: nature of links or connections, their variety, holes on the texture of the network, the connectional social capital, the degree of coopetition, etc. (Lemieux 1999).
Moreover, most of these networks include not only traditional public servants of one, some, or all the A, B, C categories mentioned above, but also other social actors and stakeholders. And these sub-networks are made of different sorts of links or connections, and are of necessity sporting very different textures and forms of organization. Ideally, the fabric of the departments of Finance, Health and Defense might have little in common, and there is no reason – ideally – that they should be structured in a similar way except as a matter of convenience. While one may sacrifice some of the desirable idiosyncrasies to practical concerns, the more decentralized a network is, the less it has to do so, and the more each network can be shaped according to the reality it is trying to shepherd.

Finally, most of these mixed networks are not only hybrid but crossing merrily both national boundaries and international jurisdictions. Very few policy fields and issues-areas are totally contained in domestic capsules. This entails the design and development of arrangements adapted to various values frameworks and reconciling contrasted perspectives. This is the rationale for the emergence of so many loose voluntary hybrid regimes that are anything but neat, but not only do the coordinating job by slowly and creatively but also evolve into more ambitious and effective schemes as experience accumulates and stakeholders learn to trust each other more (Paquet and Wilkins 2002, Paquet 2003d; Jacquet et al 2002).

Accordingly, blockages or structural holes that prevent or slow down social learning, and missing linkages that stand in the way of dialogue (and exchange and therefore reduce the probability of effective coordination) – locally, regionally, nationally and internationally – differ from agency to agency and call for network-specific interventions.

There are for the time being enormous holes in the public service networks that create chasms between the inside and outside of government agencies, and, within government, between agencies involved in the same files. Consultation and negotiation mechanisms but also new horizontal means of communication and accountability are required to fill these gaps if one is to ensure adequate social learning (Rosell 1999).

This variety stands in sharp contrast with the propensity to create standardized arrangements across agencies that both GOL and bill C-25 tend to impose. This is much less the case for the modern comptrollership initiative which offers greater scope for diversity.

Consequently, a first major step might be to insist that the modern comptrollership exercises that are conducted in all departments and agencies be requested, as a matter of priority, to identify the sort of ABC mix of human resources that corresponds to the best arrangements and mechanisms necessary to dispatch their functions, and to suggest how such a mix might be brought about.

This would in turn make it possible to redefine the mix of competences, abilities and roles necessary for the agency to dispatch these responsibilities. The existing typology of competencies developed by Len Slivinsky and his group at the Public Service Commission might be of use in the first instance, but they are likely to prove obsolete. So, experiments, like the one conducted by Elizabeth Richard on the archetypes of the sort of new public servants likely to be needed in the new public service, should help update them and open the way to different sets of arrangements in the different sub-sectors (Richard 2003).
(c) Chaords and rapid prototyping

It is not sufficient to develop a new more encompassing cosmology and to adjust the HR mix to the task at hand. One must also design new organization forms capable of taking advantage of the new ICTs and the new network thinking, and also likely to provide more effective social learning.

This is where the centralized mindset of policy makers does the most damage. For there is a clear preference by policy makers to impose a one-size-fits all approach that provides maximal administrative expediency. This propensity is based on the fundamental assumption that (1) only centralized systems work, and it is possible for omniscient planners to design them. Two corollaries to this philosophical stand are that (2a) local decision-makers neither have the knowledge nor the comprehensiveness of perspective necessary to make the right decisions, and (2b) one neither can or should allow the forces of context to play a central role in the emergence of effective responses to critical issues (Resnick 1994).

On those three scores, the conventional wisdom is wrong: efficient one-size-fits all approaches cannot be designed by less than perfectly informed planners. Local decision-makers are often much better positioned to make wise decisions, and emergence is a force that one cannot ignore for it is of crucial importance in a complex world.

We have ample evidence of the failures of central planning. This does not make decentralization into a panacea but into a useful learning strategy. This is the main reason why devolution is regarded as a promising strategy (Carter 1998).

It may turn out that, at some time in the future, social scientists will know enough to discover the few simple rules that will allow the public service to deploy in different ways as needed in the whole variety of different contexts, but this remains utopian for the moment – i.e., something one may hope for but is not achievable in the foreseeable future.

In the meantime, one has to be satisfied with bricolage. This entails taking full advantage both of the contribution of local knowledge and of the emergence forces, and attempting to make the highest and best use of them, to surf on them by making use of what little we know about the interdisciplinary study of coordination and collaboration technologies (Olson, Malone, Smith 2001).

Even though we do not have a full grammar of mechanisms and institutions where one might find inspiration in this design work, much work has already been done to help establish at least a useful lexicon and preliminary empirical work on what would appear to work. One must in particular underline the works of Elinor Ostrom and her Indiana Workshop where extraordinary promising analyses are being developed (Ostrom 1990; McGinnis 1999a,b, 2000).

We already know from this work that bottom up collaboration materializes more easily in loco and that learning and innovation emerges most effectively from prototyping. This suggests directions for our bricolage.

Two models worth exploiting in the reform of the public service and in the bricolage leading (through public service reform) to a renewal of the Canadian governance are indeed suggested by the experience of chaords by VISA and by some recent literature on innovation based on the centrality of prototypes (Hock 1999; Schrage 2000). The modern comptrollership initiative might indeed become a true exercise in the refurbishment of the whole Canadian governance system if it were to make wise use of such mechanisms.
Chaords are defined by Dee Hock – the founder of VISA – as self-organizing arrangements blending the characteristics of chaos and order. For Hock, all organizations are embodiment of the idea of community, and its governing structure must (1) distribute power and function to the lowest level possible, and (2) be based on a framework for dialogue, deliberation and coordination among equals. It is the structure that underpins VISA and serves half a billion clients in over 200 countries via over 20,000 financial institutions. It would be worth over $150 billions if it were transformed into an ordinary limited liability company traded on the stock market – which it is not.

If chaords can build such a complex coordination structure on mechanisms inspired by the principle of subsidiarity, there is no reason to believe that the same logic cannot underpin the workings of major segments of a socio-technical system like Canada, and of the Canadian public service within it.

The second mechanism is prototyping – i.e., the development of rough and ready arrangements around which collaboration and negotiations might be built. Schrage has shown that rough prototypes serve as social media and mechanisms to create dialogue and cooperation, and are the source of much of the innovations in all sectors. Prototypes create shared space, turn transactors into partners, are the platform of much co-development and evolutionary development, and tools for accelerated social learning. Indeed, it may even be said that prototyping is the basis of learning all over the place – from the learning of language to the learning of values (Paquet 2002).

When Microsoft made 400,000 beta-version copies (the prototype of the final product) of Windows 95 freely available to organizations and individuals ready to detect bugs and flaws or to suggest improvements in exchange for receiving the product in advance and free, it has been suggested that it had created a shared space with this prototype and that it had probably received over $1 billion worth of value added from the counsels of its customers and potential users.

The modern comptrollership initiative may well provide an extraordinary experimental ground for the study of e-government, and a most useful introduction to the reconstruction of Canadian governance in a digital world if it were to make full use of prototyping. To the extent that it avoids the perils of the centralized mindset, while keeping fully in sight the possibilities of the new ICTs and the need to experiment with new HR regimes, the modern comptrollership initiative might be seen as 100 meaningful experiments to rethink the ways in which the federal government might help reframe its participation in 100 shared spaces. This might be sufficient to identify what works and what does not work, the best way to partition anew the public service to face the new network age, and the ways in which the new technologies may help not only in revamping Canadian government but in reframing Canadian governance.

But the danger is great that such experiments will fall prey to the propensity to focus exclusively on government, to impose one-size-fits-all rules, and to avoid altogether dealing with the challenges of Canadian e-governance.

**Conclusion**

Even if the new technology is not a panacea when it comes to coordination, the new digital and network age is nonetheless opening a wide range of new possibilities for bricolage in our complex world. But many experiments that are very promising are fouled up by the fixation on digitalism, by the confusion between e-government and e-governance, or by the conviction that only centralized and hierarchical publicly-enforced systems are likely to work.
Only a recognition that (1) a broader governance perspective is worth pursuing, (2) e-government is a sub-set of e-governance, (3) a gamble of evasive thinking and the rights language is unlikely to increase the bandwidth and to lead to actionable pursuits, (4) a strong focus on social learning is fundamental, (5) a constant and forceful resistance to the pressures for reverting to state-centric control is required, and (6) experimentation and mechanism-based bricolage is the most promising avenue – is likely to pave the way to our improving our ways of harnessing the forces of emergence.

But the dual fixation on technology and on state-centered action has become so important that debates on e-governance have gone astray. As a result, much of the attention has been focused on epiphenomena and less on the central core of governance.

In Canada – unless the modern comptrollership initiative stays on track and remains focused on experimentation – one might face a second lost opportunity in ten years to proceed with a reframing of governance. In both cases, subsidiary issues were/are the forces that might be said to have derailed (or to have the potential of derailing) the process of rethinking of the governance apparatus. In the former case, with Program Review, the governance agenda launched by PCO was hijacked by those who were more interested in deficit reduction than in governance renewal; in the latter case, the modern comptrollership initiative runs the danger of being by hijacked by ICT fixation and the broadband and connectivity agenda.

Such downgrading of the governance agenda by short-term fixations is not without cost. There is more to governance than efficiency/economy cash grabs or ICTs, very much like there is more to the Roman Catholic Church than money collection or candelabras.

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