

The Politics of Objectivity:

Canada's Statistical Regimes, 1800-2008

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Given the central and ever growing importance of statistical information in modern societies, be it for the purpose of policy-making, of monitoring the application of legislation or of enlightening public deliberation – and given also disquietude with or resistance to statistical «inquisition» – the relevance of inquiring into the systems entrusted with the production of this information seems obvious. Since the 19th century, and more evidently since the early 20th century, more and more States have established bureaus or agencies empowered to enumerate and quantify individuals, their activities and various aspects of reality and thus able, through these «technologies of distance», to create impersonal numbers or figures endowed with «objectivity» (Porter, 1995). Increasingly elaborate censuses, sophisticated registration systems designed to follow people «from cradle to grave», comprehensive systems of national accounts were set up in a determined, yet inconclusive, attempt to know everything about anything. This culture of quantification, to be sure, extends far beyond the work of government statistical offices, as standardization and measurement practices have pervaded all walks of life, but this paper intends to focus on the working of national statistical systems, which can be summarily described as public bureaucracies especially dedicated to that purpose and which are thus precisely located on the «boundary» between politics and knowledge, between Science and the State (Bowker and Leigh Star, 2000). Accounting for the changes undergone over time by statistical systems supposes however that we do not accept at face value the public discourse of statisticians and thus take some distance first *vis-à-vis* what we may summarily identify as «the statisticians' ideology» – at the heart of which is a realist and «technicist» conception of statistical work, i.e. statistics

assessed as to their ever increasing approximation of a pre-existing reality – but also with what we may label a «logic of suspicion» – which seeks to reduce statistics to a simple exercise in domination, intent on hiding reality, if not on manufacturing it. Statistical systems must rather be envisioned as a «political-cognitive sphere» within which scientific objectivity, political neutrality, their definition and significance themselves become the object of struggle and negotiation – through the re-designing of administrative and intellectual divisions of labor, the definition and carving out of domains and objects of inquiry, the development of specific activities and routines, as well as the allocation of material resources. In other words, what we must highlight is the hybrid character of the statisticians' activity, i.e. the fact that it combines two strands of authority, that of science and that of the State, and the fact, thus, that major statistical activities such as the census, the construction of classification systems, statistical tools and algorithms themselves, or even the shape and structure of statistical offices embody simultaneously political and cognitive dimensions (Desrosières, 1998).

The general purpose of the present paper is to examine and discuss some of the major transformations undergone by the Canadian statistical system with regard to structures, norms and practices over the last two centuries or so, with passing reference to other national experiences. As a matter of fact, many characteristics of the Canadian statistical system are not that peculiar: with regard to statistics, ideas and models have indeed very soon migrated from one country to another, thanks to various official and unofficial networks. Yet, at different times, and that is true also for the present, some of the trends that were common to many countries have been exhibited quite strikingly in Canada. Even though the attention will be mostly devoted to the changes undergone by statistical systems since the 1980s, these will be set against a historical background that will allow for highlighting contrast as well as continuity between present features and past practice. For each period under consideration, the Canadian statistical experience will be characterized according to three dimensions. The first one, which may be defined as *structural* and is somehow used as a guiding thread for shaping the narrative, is the ongoing interplay between national, subnational and supranational perspectives with regard to the organization and activities of the statistical system. As will become obvious, this dimension is strongly correlated with the large-scale political and economic changes that have affected the country's status and relations over the long run. The second dimension consists in the nature of the dominant discourse held by statisticians during a given period: it may be labeled as *normative* in the sense that it refers to

the set of (sometimes tacit) rules, prescriptions and standards, in other words: the professional ethos according to which statistical work should be framed. Notwithstanding inevitable national idiosyncrasies, these norms are generally put forward as universal and scientific, as the authority they carry originates in good part with the transnational character of statistical debates. The third dimension (*practical*) deals with the nature of statistical undertakings (i.e. administrative records, the census, sample surveys, etc.), the kind of information sought and the general political requirements that motivate its production. *Structures, norms* and *practices* can therefore be envisioned as the defining traits of a particular statistical *regime*. It is a central contention of this paper that, from the 1980s on, a new statistical regime has emerged in many countries, something which appears with utmost clarity when we compare its structural, normative and practical characteristics with those of preceding regimes; it is also our contention that the case of Canada offers a remarkable, yet representative, instance of this new statistical regime.

1. Proto-statistics and the local-colonial perspective (1800-1860)

From the beginning of the 19th century to somewhere around 1860, the British colonies of North America have evolved in an environment that we may describe as «proto-statistical». There was no clearly designated statistical authority at that time, nor was there any regular and organized statistical activity and, thus, nothing which we may consider as a statistical *system*. Yet, there undoubtedly was some production of numerical data for the purpose of government during these decades. Besides the two censuses that were held in Lower Canada in 1825 and 1831 and the population counts that were taken in Upper Canada nearly each year between 1823 and 1841, numbers that were used for governmental purposes or in the course of public debates rested essentially on a *local* basis. Joseph Bouchette, who was Chief Surveyor (*Arpenteur-général*) of Lower Canada and became famous throughout the British Empire for his cartographical achievements, published during that period two impressive monographs, *A Topographical Description of Lower Canada* [1815] and *The British Dominions in North America* [1831-32], both of which presented those global entities that were the colonies as the sum of smaller local units. Both books were based on Bouchette's first-hand knowledge of a territory he had largely covered by foot and on his

ability to recruit local elites (first and foremost, landlords and members of the clergy [*seigneurs* and *curés*]) as privileged informers. For this work, Bouchette was described as «the father of Canadian statistics» by his contemporary Amury Girod, himself the author of a short statistical essay entitled *Notes sur le Bas-Canada* (1835: 13). A number of other authors from that era – which we may designate as «gentlemen statisticians» – took part in the development of what was to become a peculiar colonial literary genre of the first half of the 19th century, the «statistical account». Modelled after Sir John Sinclair's celebrated *Statistical Account of Scotland* (1791-1799), these monographs – of which nearly a dozen dealing with British North American colonies were published – were quite diverse: they ranged from mere travelers' tales to very detailed surveys amounting to quasi-censuses such as Robert Gourlay's *Statistical Account of Upper Canada* (1822) or W. H. Smith's *Canada: Past, Present and Future* (1851). At the same time, there were also, besides those individual authors, a number of official or institutional bodies involved in statistical work for the benefit of the metropolis: this was the case notably with the compilation of the yearly *Blue Books*, which were not meant for publication but for the benefit of the Colonial Office and contained precise enough data on the administration of justice, the number and location of prisoners, etc. (Curtis, 1993)

In other words, we may say that statistical production was at that time structured around a combination of perspectives that were local (the *seigneurie*, the parish, the township) and supranational (the colony vs. the metropolis) and that it relied somewhat more upon private initiative than upon a bureaucracy that was largely devoid of means and whose grasp on the territory and its inhabitants was minimal. The statistical discourse that began to take shape in the various *Statistical Accounts*, in the debates of Lower Canada's *Chambre d'Assemblée* as well as in the brief reports written after the 1825 and 1831 censuses testifies that, even though it may have been small, an enlightened public existed that was able to discuss and criticize information conveyed in a numerical guise. This discourse may be described as proto-scientific, since it corresponded to the progressive introduction of a distance with regard to individual experience and opinion, professed some sort of impartiality and was characterized by a growing tendency to use formal and formalizing devices such as percentages, means, statistical tables, etc. At the same time, in a paradox that was only apparent, statistical arguments were put to play in debates that had an obvious political character, since they addressed issues such as the optimal use of land resources (How should

their value be assessed? What should be done with Crown and Church reserves?), population growth as the first and foremost indicator of progress (How should we estimate it in the absence of a census? How did it compare across colonies?), the costs and benefits of Lower Canada's large Catholic clergy, the pace of economic development in British colonies as compared to that of the southern republican neighbour, etc.

2. The «nationalization» of Canadian statistics (1860-1940)

From the mid-19th century to the eve of World War II, the course of Canadian statistics was defined by a progressive, but slow-paced and rather difficult emergence of a «national», as opposed to a supranational or a local, perspective. This process combined at least three distinct threads. To begin with, the geographical or topographical surveying of the territory was more or less completed during that period: it had already begun with Bouchette's work, but it reached its conclusion with the exploration and colonization of the Western provinces. This was also the period during which Canada found, after a number of trials, its enduring political shape. The successive constitutional arrangements of the 19th century can be viewed as various possible foundations for a definition of the «national» level, starting with the establishment, in 1791, of a Lower Canada peopled by former French and Catholic subjects and an Upper Canada to be filled with Anglo-Saxon Protestant settlers, then moving, after the armed rebellions that shook them both in 1837-38, to a forced – and unsuccessful – Union of those two Canadas in 1840, and, finally, to the 1867 Canadian confederation in which Ontario and Québec were joined by New Brunswick and Nova Scotia. This last arrangement, which allowed for other territories to join in the future, provided the basis for the establishment of a Canadian statistical system, at least from a legal point of view, since census and statistics were mentioned in the text of the constitution.

The 1867 *British North America Act* stated indeed that the census, and more generally the collection and publication of statistics were to fall under the authority of the Federal government. Statistics were intended to periodically assess the progress that was made by the ex-colonies, while, following article 51, representation of the provinces in the Canadian *House of Commons* was to be determined according to the number of their inhabitants as

revealed by a decennial census. As an element of the constitution, statistics and the census thus took from the very beginning an outright political character – a feature that was also characteristic of the United States (Anderson, 1988). It is for instance extremely unlikely that Canada could move towards some form of «virtual» or «rolling samples» census as if this were a simple, technical or purely scientific issue, like France has done recently (Bardet, 2007). Very early indeed in the country's history, the politically-loaded character of seemingly technical aspects of the census were to prove highly volatile. The decision to conduct the census according to the *de jure* principle (i.e. people should be counted at the place where they normally or usually live) rather than the *de facto* method (i.e. people should be counted at the place where they were present on the day of the census), for instance, could not but provoke fierce criticism, as it did in the House of Commons in the 1880s and 1890s: since there were significant cross-border movements of migrant labourers (mainly from the Atlantic provinces and Québec to Ontario or the United States), the procedure to be preferred clearly had an impact on the number of representatives (*Débats de la Chambre des Communes*, 1890 : 2439-2448).

Census and statistics thus became a federal domain, as they were entrusted to an energetic and enterprising civil servant, Joseph-Charles Taché, deputy minister of Agriculture, who kept his position until the late 1880s. There was thus, besides the topographical and the political, a properly statistical rationalization: even though it would prove laborious and for a time uncertain, there was a clearly stated intent to coordinate, under the authority of the Ministry of Agriculture and on a country-wide scale, the collection and publication of statistical data. In 1847, a *Statistics and Registry Office* had already been created for that purpose, but it had remained an empty shell and the 1851 and 1861 censuses that were conducted under its nominal authority were considered by Taché as botched-up jobs and their results as «nearly worthless». National statistics were thus, according to Taché, to start from scratch. The realization of «the first scientific census of the new national state» in 1871 (Curtis, 2001: 304), the setting up of a national scheme of criminal statistics and the publication of a statistical yearbook are all testimony of the emergence of this national statistical perspective.

Yet, though the census was by far the most important statistical endeavour, it was not the only statistical activity of government and, since statistics were often the by-product of

the day-to-day business of various departments and offices, at both federal and provincial levels, the problem of determining more precisely who should have authority with regard to the production and publicity of statistical data would surface regularly. From then on, the problem of coordinating statistical activities would take, in the Canadian case, a double aspect: this coordination had indeed to be conceived along two axes, which we may define as «vertical», i.e. between federal and provincial governments whose distinctive fields of intervention had been defined in the constitution, and «horizontal», i.e. with regard to the statistical activities of various departments at a given level. As federal and provincial departments would grow in number and size and as new regional, local and other subjects would appear on the scene, the debates that punctuated the progressively complex and never-ending rationalization of statistical work would be conducted, as would be the case in many countries, along the lines of a classical dilemma: should preference be given to a synthetic view proceeding from the center – one that put producers and methodological coherence in command – or should instead a more analytical view be favoured – with relevance and the needs of users being given priority? The creation, in 1912, of a *Bureau des statistiques de Québec* and, that, in 1918, of the *Dominion Bureau of statistics* are but two episodes, to be sure among the most significant as regards the latter, of what we may describe as the ongoing movement between generality and specificity in the political-administrative ordering of Canada.

In the 1890s and early 1900s, statistical coordination seems to have become more difficult, as the production and publication of data by various government departments grew significantly. One of the major statistical data producers was the Labour Department, created in 1900 – a development far from uncommon, as many other countries created a Labour ministry during that period (the United States, Great Britain, France, Belgium, Austria, Italy all did so from the mid-1880s to the early 1900s). With the advent of industrialization, Canadian authorities as well as the public had become widely interested about new and politically sensitive issues such as wages, cost of living, or strikes, as reflected by major inquiries that led to published reports (Coats, 1910; Board of Inquiry into the Cost of Living, 1915). The creation in 1905, of a *Census and Statistics Office* did not solve the problem of coordinating an increasing and increasingly diverse output of data, but its transfer, in 1912, from the Department of Agriculture to that of Trade and Commerce reflected consciousness of a fundamental change in the country's economic structure. As a matter of fact, the

creation, in 1918, of the *Dominion Bureau of Statistics* (DBS) represented, to be sure, a successful move towards centralization (and not only coordination) and nationalization of statistics: (a) on the horizontal level, it led to a radical reorganization of most statistical activities of federal government departments under the clearly stated authority of the DBS; (b) on a vertical level, it led to the conclusion of a series of agreements with provincial governments, the first one dealing with the central issue of harmonization of vital statistics – which fell under the authority of provinces; and, finally, (c) with regard to the metropolis, it led to true and complete statistical emancipation. On this last issue, it is highly significant that the British Empire Statistical Conference, which was held in London in the winter of 1920, instead of accomplishing its intended purpose of setting up an Imperial Bureau of Statistics, resulted into the practical recognition of full statistical independence for the Dominions. It was clear, for instance, that, from an economic point of view, as Dominion Statistician Robert H. Coats had put it plainly to the members of the conference, Canada now had much more in common with the United States than with the Empire and that this state of things had practical statistical consequences (British Empire Statistical Conference, 1920, vol. 5: 20).

If the «local», the «regional», and the «provincial» would from now on move within the orbit of the «national», this did not occur without clashes nor resistance. In 1912, for instance, a *Bureau des statistiques de Québec* (to be renamed in 1961 as *Bureau de la statistique du Québec* - BSQ) was created, with the avowed intent of blocking what was seen as an intrusion of the federal government into specific areas of provincial competence (Bureau de la statistique du Québec, 1988: 10). The motives for creating the BSQ were primarily political. The Foster Commission, which had been convened in Ottawa in 1912 for the purpose of examining the state of the country's official statistics, had proposed that some form of «general statistical coordination» be set up under the authority of the federal government. Worried by such a prospect, the Québec provincial government resolved to hire a young French statistician, Henri Bunle, and to entrust him with the organization of a new provincial office. In other provinces, however, statistical «consciousness» remained in an embryonic stage: although late 19th-century Canadian legislation had foreseen the possibility of federal-provincial cooperation in matters of statistics, no such action had been taken and, «statistical chaos existed among provinces» (Statistics Canada, 1993: 10). The BSQ itself

remained largely a view of the mind, since its inception proceeded from a defensive reaction rather than a will to act.¹

We can thus draw a number of conclusions from the 1860-1940 period: (1) the production of statistical data became progressively dominated by a national perspective; (2) local and regional perspectives became more and more dependent upon this national perspective; (3) a distinctive provincial perspective had yet to emerge, save for Québec's velleities; (4) by the end of the period, the supranational (colonial) perspective had for all practical purposes lost its importance. The discourse that took shape during these years had a more and more administrative and bureaucratic character – it was in fact largely inspired by the language of administrative efficiency and scientific management that had become dominant in many Anglo-Saxon countries at the turn of the century (not unlike, as we shall see, what happened in the 1980s, with the dissemination of «new public management» theories) – and, on a formal level, it thus seemed less – or rather less overtly – political than that of the former period. The keywords of this discourse were «harmonization», «coordination», and, in the later part of the period, «centralization», which increasingly gained the status of a quasi-moral imperative: to avoid overlapping and incoherence, there was a proclaimed call for permanent discussions, meetings, and conferences between central statistical authorities and the other statistical «subjects»; but in case of deadlock, the centre was to prevail. Statistical centralization was therefore envisioned as the organizational analog of an integrated view of government, conceived as a single entity, as well as a reflection of the postulated systemic unity of economic and social reality. In their writings as much as on the occasion of their international encounters, statisticians, always eager to assert how essential their role was to the workings of a modern State, developed and shared for that purpose a whole stock of arguments, images and metaphors: a statistical bureau should be viewed as the «central thinking office» of government, as a «social and economic laboratory»; as such, it should be led by an «elite trained in observation and calculation» and endowed with «inquisitorial powers», so that it could provide «an integrated conspectus» on all information needed by government in order to perform its functions. At one point, Canada's Dominion Statistician Robert H. Coats poetically depicted statistics as «the modern oracle» – a rather over-optimistic pronouncement since it was made in the context of the Great Depression (Coats, 1937: 60). On the basis of a rather strict interpretation of the

Canadian constitution, this view would give way to what is still probably one of the most centralized statistical systems in the Western world.

3. The epistemic infrastructure of macro-management (1940-1980)

From the 1940s up to the 1980s, the development of the Canadian statistical system – as well as that of many other countries – may be characterized as following two major trends. The first, and most consistent one, is consolidation at the national level. In Canada as in most countries of the Western world, post-World War II, government has adopted a much more interventionist stance than that which had prevailed prior to the Great Depression, notably with regard to fiscal, monetary, industrial and trade policy. In Canada and elsewhere, national statistical systems were thus entrusted with developing what may be designated as an epistemic infrastructure, namely a system of national economic accounts as well as one of regular surveys about businesses and households, so that governments could be provided with the comprehensive view that was required by macroeconomic management and by the introduction of a series of large «universal» programs in the areas of health, education, unemployment, etc. (Fellegi, 1999: 116) Whereas in the former period, statistical offices were geared on producing a restricted number of key demographic and economic values, on the basis of which government and other deciders were expected to make more enlightened choices, statistics were now to play a more direct role in decision-making, with regard to issues such as equalization payments, pension indexation or the definition of an anti-cyclical policy. The national «bias» is obvious for instance in the case of unemployment, which was understood in the post-Depression context as a general, countrywide problem; in conformity with the Keynesian framework that informed the original Labour Force Survey, supply of and demand for labour were considered as two more or less homogeneous quantities suitable to macroeconomic fine-tuning. In this context, statistical centralization seemed especially fit, since it facilitated the concentration of scarce resources and skills, and a number of developments occurred during a short enough period of time. The most significant of these were, to be sure, the establishment of a national accounts system (of which the first estimates were released by the end of 1945), the development of probabilistic sampling (with the beginning of the Labour Force Survey in November 1945) and the introduction of electronic computers in the early 1960s. On an organizational level, two new divisions, one dedicated to

research and another to sampling, were set up in the DBS and staffed with highly skilled personnel, mainly economists and mathematical statisticians; the whole DBS personnel, excluding field interviewers, went up from 900 in 1945 to 1740 in 1960 and 4600 in 1975 (Statistics Canada, 1993: 55).²

At the same time, while the national perspective was spectacularly consolidated, the local, regional and provincial perspectives were also, in various manners, taken into account. First of all, over a period of about two decades, most Canadian provinces, as they were themselves expanding their activities, would pass laws to create their own statistical authority (only in Québec did a provincial statistical bureau already exist, as we have seen earlier). Some of these bureaus were conceived as truly provincial central statistical offices, with accordingly extended mandates and appropriate denomination: for instance, the Saskatchewan Bureau of Statistics (created in 1972), BC Stats (in British Columbia – 1977) or the Newfoundland and Labrador Statistics Agency (1977). In other cases, statistics were conceived with a much narrower view, and were accordingly entrusted to sub-units often acting within a larger division of a ministry, Finance or the Treasury being the usual locations: Alberta, Nova Scotia, and Prince Edward Island provide such examples. All these provincial statistical offices or units tend to present themselves as the focal point of communication with Statistics Canada.³

In the meantime, the DBS, which was renamed *Statistics Canada* in 1971, would create a network of regional offices: these were first involved in the realization of the quarterly Labour Force Survey (it would eventually be conducted on a monthly basis and relied on a large staff of field interviewers) and would soon move on to dealing with a variety of other statistical topics and act as dissemination centres. The necessity of organizing stable relations between, on the one hand, the national bureau and its regional offices, and, on the other hand, the national bureau and the provincial bureaus or statistical units of provincial ministries, as well as that of taking into account information and data requests originating for the federal and provincial governments would lead to the setting up of more or less permanent structures to maintain dialogue, such as the Federal-Provincial Consultative Council on Statistical Policy, created in 1974 (and which became, in response to increasing concern about aboriginal peoples, a Federal-Provincial-Territorial Council).

To sum up, we may say that during this period, the local and regional perspectives were somewhat statistically recomposed through the possibilities of disaggregating the national dimension that were made possible by technical innovation.⁴ The national perspective remained however largely dominant, as the major innovations were conceived at the national level and only at that level were the conditions present for accumulating the resources and skills necessary for implementing those often very expensive developments. The introduction of computer technology, for instance, was at that time put forward as a very strong argument in favour of the centre against the periphery: machines were huge, costs were heavy, and operating programs was a highly complex affair; problems of data storage and confidentiality – an emerging concern – could be better addressed, so it seemed, by a single authority. The dominant discourse was more and more of an administrative character (centralization, de-concentration, harmonization remained ongoing concerns as federal and provincial government departments were created or saw their domains for intervention expand), but the technical dimension was becoming paramount, as Statistics Canada presented itself more and more as a leading center of methodological innovation and expertise. As some aspects of their work became increasingly arcane to the general public, there was an increasing and recurring insistence, on the part of statisticians, on the scientific, objective and politically neutral character of their activity.

4. Statistics in the neo-liberal global age (1980-20..?)

The era of globalization – and globalization summarily defined as «the integration of production and distribution across national boundaries» (Fellegi, 1999: 113) has become indeed a compelling theme in the discourse of statistical elites since the end of the 20th century – has witnessed, in Canada as well as in many other post-industrial nations, the advent of a new statistical regime, with its distinctive features, concerns and concepts. With regard to *structure*, the status of the «national» as the most significant level of governance has indeed been called into question: we see for instance that matters pertaining to statistical harmonization and coherence have partly moved from the national to the international – or supranational – orbit. A remarkable instance of this has been the importance recently taken by Union-wide European social surveys – a levelling process which meant that some countries would now be publishing data on matters previously not queried while others would have to

content themselves with less scrutinizing probes. At the same time, a thoroughly new set of *norms* has emerged, which do not supersede but are rather added to those already present as a distinctive stratum: this trend is evidenced notably by the proliferation of ethical guidelines and codes of practice, the insistence on quality and its requirements, the enhanced value taken by marketing statistical products or responding to customer needs. If we move to *practices* understood as the kind or nature of statistics that are sought, we can observe a significant investment in the production of policy-relevant information, something which implies obtaining data about micro-economic and social behaviour on a finer level than that provided by macro-aggregates such as GNP or the rate of unemployment. As regards the latter phenomenon, for instance, interest has clearly moved towards a more complex understanding, which takes into account labour market segmentation as well as the relationships between unemployment and a number of variables that may act as obstacles or disincentives. Inquiring into subjective dimensions towards which statisticians were traditionally reluctant, for instance self-perception of one's (sexual, racial/ethnic, linguistic) identity, of one's health, wellbeing or incapacities, has also been a growing trend across the world. In Canada, new major concerns have emerged that either are defined according to the federal-provincial divide (this is the case of «harmonization» of consumption taxes, which led to the development of subnational input-output tables) or fall clearly within the orbit of provincial competence, but with a significant financial contribution by the federal government (this is the case with health, for which a complex survey – the Health Services program – designed to measure the outcomes of health spending at a sub-provincial level has been set up). In order to illuminate the nature and significance of the changes undergone, we shall develop some of these topics in the following paragraphs.

Crossfire: re-dimensioning the «national»

The principle of statistical centralization, which may be seen as the embodiment of the national dimension and which had held a supreme ideological position in the discourse of statisticians throughout most of the 20th century, has undoubtedly been called into question. Among the changes that have made the statistical ideal less compelling are technological innovation, which has somewhat completely reversed its characteristics from the former period (with the advent of the individual micro-computer, the development of user-friendly

statistical packages, the emergence of the internet and an increase in the users' statistical skills, all characterized by dissemination), the increased pressure on public sector resources, which has led to budget cuts and has put into question the existing division of labour, the growing role of the private sector in certain tasks previously performed by statistical agencies and, in phase with globalization, a greater need to produce data that is comparable with that of other countries (United Nations, 2003: 13-14).⁵

In the case of Canada, the most significant instance of statistical «supra-or trans-nationalization» has occurred with the development of North American classifications following the Free Trade Agreement that was signed with the United States in 1989 and enlarged to Mexico in 1994 (under the acronym of NAFTA). The first of these, the North American Industry Classification System (NAICS), which succeeded in 1997-1998 the 1980 (Canadian) Standard Industrial Classification (SIC), seeks «to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate the analysis of the three economies» and thus allow the production of «information on inputs and outputs, industrial performance, productivity, unit labour costs, employment, and other statistics that reflect structural changes occurring in the three economies» (Statistics Canada, 2008). Indeed, the agreement that was reached after a number of meetings over two years between Statistics Canada, Mexico's *Instituto Nacional de Estadística, Geografía e Informática* (INEGI) and the Economic Classification Policy Committee (ECPC) of the Office of Management and Budget (OMB) in the United States may be described as a technical and statistical conversion of NAFTA itself. In the case of Canada, it implied a change in perspective and falling in line with the new economic concerns, since the former Standard Industrial Classification (SIC) was based on commodities produced and their end use (it was demand-side defined and thus more appropriate to the study of consumption and markets), while the North American Industry Classification System (NAICS) is founded upon similarity in the production processes (it is supply-side defined and thus more appropriate to the study of production and productivity).⁶ The development of a North American Product Classification System (NAPCS), to cover goods and services, is well under way (a provisional version exists), and an open database on North American Transportation Statistics has also been put into service. Similarly, the Canadian Classification of Instructional Programs (CIP) has been redesigned on the basis of its already existing American counterpart, with the intent of enhancing comparability between Canadian and American educational data. Adopting

NAICS has meant in fact aligning Canada's theory and practice of industrial classification with what had emerged first as an American consensus.⁷ Interestingly, Australia and New Zealand have also agreed in 2006 upon a common industrial classification based on a supply-side definition and grouping of industries, and presented as compatible with NAICS (Australian Bureau of Statistics, 2006: 56-64).

As wrote J. Ryten, a former Canadian Assistant-chief Statistician who was a major player in these negotiations, the decision to move towards North American harmonization, which put Canada more in line with international statistical standards, broke with a long-time habit of largely ignoring these standards (2001).⁸ To be sure, the international or supra-national dimension had not been entirely absent during the former period. A number of Canadian statisticians had been quite active at the international level, notably in providing assistance to less developed countries in establishing statistical offices and in taking part in the statistical work of various UN and other international bodies, such as the International Labor Office (ILO), the Organization for Economic Cooperation and Development (OECD), the Inter-American Statistical Institute, etc. But the old ideal of statistical internationalism had suffered from the repercussions of politics (the Cold War, a certain withdrawal into themselves of Keynesian economies); international work was seen as an extension of national expertise, but international standards generally gave the way to national requirements.⁹ There is however much more at issue here than the choice of a theoretical classification principle. The wisdom of creating NAFTA has indeed been a major political issue since the mid-1980s and, even though breaking away is probably no more a realistic option, the assessment of its costs and benefits is an ongoing concern. The questions NAFTA raises have to do with jobs (have there been more or less than would have been the case without it? are jobs now better or less-well paid than before?), with prices (which have gone up or down more than would have been the case if status quo had prevailed?), with economic dependence and independence, with the country's vulnerability to foreign business cycles, etc., all of which boil down, in the end, to that of deciding if it was a good move or not for Canada. As Ryten himself declared, these are the kinds of questions that are put to the national statistical offices of each of the countries involved and these questions are addressed at them precisely because, since they have said so for decades, they are «supposed to be neutral and objective». Yet, precisely because statisticians pretend to be neutral and objective, they cannot give a direct and simple answer to the basic question: they can only try to segment it and recast it in a series of much

finer questions themselves amenable to statistical measurement. What they have done – and this is indeed what Ryten presents as their specific accomplishment – is to develop a classification system that will allow for the collection and processing of data according to its categories and ultimately «rise to the challenge of interpreting how our industrial structure differs from that of Mexico and from that of the United States», something a demand-side classification would not have been able to do (*ibid.*). But the development of continental classification schemes has had by itself a non-neutral effect upon the phenomena it sought to embrace: by henceforth presenting, for instance, industries according to the common structure of the classification (peculiar national industries find their place at the sixth-digit level), it clearly and positively contributes towards the institution of the new, larger, economic space, since the latter becomes the basic and significant reference or framework for analysis. Borrowing from Desrosières's analysis of the effects of European-wide statistical surveys, we can sustain that, despite the obvious differences between the three trade partners, NAICS, NACPS, CIP and the analyses that are based on data produced according to them are «more useful for creating, or putting in place a [North American] context rather than reflecting it» and that they thus play a part in enhancing «the intellectual credibility of a [North American] 'context for comparison and equivalence'» (2000: 179).

Besides pressures from 'above', centralization and «the national» have also been subjected to strains from below, i.e. calls for a decentralization of political decision-making processes along regional lines, a trend not unrelated to economic globalization and which signals a re-definition of the division of labor between the global market, the nation-State and sub-national units with regard to the management of the economy. This could not but lead to some movement in favor of a «vertical» decentralization of statistics. A conflict between the federal and Québec governments about the intercensal population estimates that are used in order to determine the amount of equalization payments among provinces has for instance led a significant revival of the *Bureau de la statistique du Québec* which became, in 1998, the *Institut de la statistique du Québec* (ISQ). There was more than a change of name here, since the ISQ was made up of the old BSQ, to which were amalgamated three other public statistical units dealing with health and labor statistics. This was the first initiative taken by the province of Québec with regard to the development of an autonomous statistical expertise in over eight decades. The ISQ is by far the most important of the provincial bureaus (it now employs nearly 275 people). It is fully engaged in a range of activities that go from original

survey work (the ISQ has been engaged for years in a comparative study of remuneration in the public and private sectors, a hot issue to be sure) to customized statistical compilations, economic impact studies, the setting up of a provincial research database, as well as methodological research and assistance. The state of provincial statistics remains however quite variable from one province to the other. BC Stats, the Newfoundland and Labrador Statistics Agency (the two most eccentric provinces) and others (notably those of territories peopled in majority by aboriginal people) have also been active in conducting their own surveys, developing original indicators for secondary analysis of data collected by others, and producing sub-provincial estimates. But other, smaller provincial statistical bureaus are still merely acting as local agents for Statistics Canada, issuing documents that highlight provincial data extracted from Statistics Canada's nation-wide inquiries. More recently (2006), a First Nations Statistical Institute was equally set up, a move that may be described as one that should enable aboriginal peoples to become a statistics-producing subject instead of remaining an object of statistical measurement.

Here again, Canada was far from being the only country where the resurgence of sub-national concerns has led to a re-organization of the national statistical system. In Australia, the 1975 Australian Bureau of Statistics (ABS) Act had signaled a very strong move towards statistical centralization, i.e. from individual States to Commonwealth and from departments to the ABS, but this was partly reversed in favor of state governments and departmental authorities as soon as the early 1980s, following a general review of Commonwealth functions and expenses (Australian Bureau of Statistics, 2005: 27). In Italy, in line with the increasing role of regions within the country's political structure, the Italian statistical system was fundamentally reorganized by the late 1980s in a decentralized fashion, i.e. as a network of national, regional, local and functional bureaus that were endowed with statistical duties, while the former «central» agency, which had been inherited from Fascism but had never really succeeded at imposing itself after the war, remained as a coordinating body.¹⁰ An even more spectacular case has been that of Spain, where, after Franco's death and the advent of democracy, statistical «sovereignty» was in many cases considered as a necessary attribute of the new arrangements and autonomous regions have consequently emerged as statistical players in their own right.

The business of statistics

With regard to the discourse put forward by top official statisticians, a significant shift has also occurred. In many countries, the statistical office is now generally described as an *agency* which provides *services* and *products* on a *market* where *clients* are sensitive to *quality* and *prices*: these are but a few of the keywords that testify – on a symbolic level at least – of the business turn that has been taken and stand in stark contrast with the industrial-cum-scientific self-image of the previous period. In the somewhat competitive context that ensues from the emergence of other statistical data producers, national statistical offices now tend to describe themselves as providing *leadership* to the system and call for cooperation rather than advocate outright centralization as they formerly did. This new lexicon has of course been widely disseminated during the last quarter of century or so, as other areas in which government was largely present, such as the postal service, telecommunication, and public transportation, have been called into question and subjected to various forms of privatization, marketization or corporatization (Campbell, 2002).

In the case of statistics, the clout of neo-conservative criticisms of government and bureaucracy as well as the influence of new public management theories fashioned in their wake have also been largely felt. The most extreme case in this regard has probably been that of Britain, where a thorough review of Government statistical services was conducted in 1980. The Rayner report, for the name of its author, a former private sector executive, favored a significant rethinking of government statistical activities: since «data (was) not a free resource» and since «there (was) no more reason for Government to act as a universal provider in the statistical field than in any other», information «should be collected primarily because government needs it for its own business» (Hoinville and Smith, 1982: 202-207).¹¹ This represented, as its critics forcefully underlined, a very clear break with the notion that, besides assisting government in the administration of policy, public statistics should also provide «a means of accountability for government service in a democracy» as well as «a wider range of information» that could sustain evaluation and criticism of present policies and the development of alternative policies (*ibid.*: 197). Getting «value for money» was the key slogan of the Rayner doctrine, as it became known: predictably, it led to drastic cuts in budget and manpower and to a more cost-effective view of statistics, which implied marketing data aimed at the public, introducing commercial contracts between the statistical office and other

government departments wishing to make use of its expertise as well as outsourcing ad hoc social surveys to the private sector. The implementation of the Rayner doctrine resulted, over a decade, in a spectacular downsizing of Government Statistical Service;¹² it also led to a serious «confidence» crisis from which the British statistical system has yet to recover fully.¹³

In Canada, budget cuts had already been imposed on Statistics Canada and on other government departments by the late 1970s, but this was an expedient dictated by a context of acute inflationary pressures rather than part of a plan to overhaul the public service. With the advent of a Conservative government in 1984, however, the Nielsen Task Force on Program Review was launched, which openly drew its inspiration from Rayner and from the Grace Commission that had also been set up in the United States by President Reagan with the purpose of reducing government costs (Savoie, 1994). In this context, it was proposed to cancel the 1986 census (only decennial censuses in years starting with one are constitutionally binding), but Statistics Canada rallied support and argued successfully that it be allowed to go on with the census, provided that it absorbed this considerable expense through increased efficiency and cost recovery over the next five years. Statistics Canada also contended that a statistical agency should conduct by itself the review of its activities and that having the Cabinet to decide which statistical programs should be cut would amount to a breach of the bureau's political independence, with a decline in the public's confidence in the value of official data as an unavoidable consequence.¹⁴ On the basis of these British and Canadian ordeals, it has been held that a centralized statistical agency was in a better position to protect itself from budget cuts – or, at least, that it was in a position to manage these in a more sensible manner – than were bureaus that depended upon different ministers (Duncan and Gross, 1995: 65-66).

Yet, Statistics Canada has fully embraced the new trend, creating for instance two new divisions whose funding is entirely provided by clients who contract for the realization of surveys (most often, other government departments). Chief Statistician Ivan Fellegi has well conveyed this new approach, writing that «the employees of these divisions (...) have learned to 'market' not only their operational capacity but also their ideas» and that the bureau has also committed itself to a «marketing orientation for the entire organization including revenue targets» (Fellegi, 1999: 122). Thus, national statistical offices are now often designated as *agencies* (a status which generally provides them with contractual, marketing and pricing

autonomy) that need to adopt *strategic* or *corporate plans*; their *performance* must be assessed, their publics be *targeted*, their *clients' needs* be known; in all matters, they must adopt a *stakeholder perspective*, etc.¹⁵ In Australia, for instance, the statistical office has also adopted a number of successive «marketing plans» since 1989, in order to comply with the government's decision that it should adopt the principle of cost recovery (Trewin, 2005). Countries like Finland, Sweden and New Zealand, among others, have moved in the same direction. In Canada, revenues have represented for the most recent years no less than 15 to 20% of the overall budget (in the case of Australia and New Zealand, the range is 5 to 10%).¹⁶ This commercial turn has obviously meant a number of changes in Statistics Canada's practices, such as subcontracting some of its operations to private businesses (this was the case with the 2006 census, for which 25% of total cost went to outsourced activities and material – no properly statistical or field work has however been entrusted to subcontractors [Statistics Canada, 2005]) or obtaining the autonomy for pricing its services and products and keeping the revenues thus earned. It also meant that, whereas, in the past, the Bureau «developed a product and then looked for a market», now it sought «giving numbers mass market appeal» (Statistics Canada, 1993: 81), and accordingly developed a variety of printed and electronic products directed at targeted publics, together with a communication strategy aimed at the media (in practice, «packaging» the numbers in releases to be reprinted or summarized by journalists and replying systematically to «incorrect» interpretations of these data). In conformity with textbook marketing discourse, Statistics Canada, Statistics Sweden, or the Australian Bureau of Statistics were to adopt a *trademark approach* and Statcan, ABS, etc. therefore be upheld as *brand names*.

To be sure, the administrative, scientific, and technician dimensions of the former period have not altogether disappeared from the statisticians' discourse: when working for clients, Statistics Canada insists on retaining complete professional control (which goes from conception and content of the questionnaire to survey design and data collection and processing) and refuses to undertake any inquiry it considers incompatible with its mandate (which means avoiding first and foremost political opinion polls). But the traditional norms of statistics are now somewhat supplemented by the new language, which tends to permeate or redefine those concerns that were characteristic of the previous eras. The revered topoi of scientific *excellence*, *neutrality* and *integrity*, which have made up the normative core of statistics for more than a century, are similarly rephrased according to the fashionable idiom

of *total quality*. The traditional issue of *coordination* and *harmonization* between various data producers is now discussed within the framework of *partnership* and, thus, as the result of agreement between equals rather than an exercise in authority by a central agency. As regards methodology and research, both are aptly renamed as *quality assurance* and *product development*.¹⁷

The politics of quality

Quality has been, since the 1990s, a recurrent theme of the statisticians' discourse. Dennis Trewin, head of the Australian Bureau of Statistics, has for instance recently delivered a vibrant plea for «quality culture» (2002): he argued that users' confidence necessarily rests on perceived quality and did not refrain from using the word no less than 85 times in a nine-page text. In a general sense, quality has been a long-standing concern for statisticians, but, as Canadian Assistant-Chief Statistician Gordon Brackstone wrote, they usually defined it very narrowly, i.e. as «the mean square error of an estimator», and debated it with the aid of concepts such as «bias, goodness of fit, or error in hypothesis testing» (1999: 139). The movement for Total Quality Management (TQM), which has developed in the context of industry and has played a prominent role in the dissemination of awareness about quality issues, has of course put forward a much larger definition of quality. The history of «total quality» is however closely intertwined with that of 20th-century statistics, since the founding father of TQM, W. Edwards Deming, was a professional statistician who had played a notable role in the development of sampling procedures in the U.S. Nearly three decades before the International Statistical Institute adopted its *Declaration on Professional Ethics* (1985), Deming emphasized the need for a code of practice or conduct for statisticians, something which he envisioned in the shape of a contract defining reciprocal responsibilities of the statistical expert and his client (1965).¹⁸

From the earlier contexts of industrial quality control and sample data quality, debates and discussions about quality have led national statistical offices to adopt a more or less standardized definition of quality and its characteristics: according to Statistics Canada (other countries have evolved slightly different lists), it includes relevance, accuracy, timeliness, accessibility, interpretability and coherence. In general, understandings of quality issues are

predominantly technical in their character and they therefore often converge on the problem of accuracy, in conformity with the statisticians' scientific ethos.¹⁹ But quality and its features may also be envisioned as the ground and positions around which a number of political-administrative struggles are waged – over the nature of the information to be produced, over the independence of the agency with regard to its statistical programs, over the publicity of statistical data, etc. The issue of *relevance*, notably, has been strongly relied on for defending the preservation and even the expansion of statistical programs against threats of budgetary cuts. Statistics Canada has been especially skillful at that game. According to its Chief Statistician, the transformations undergone by Western societies since the 1980s, namely «slower economic growth, apparent ineffectual macroeconomic policies, and the cost of universal social programs», have led to growing public deficits and therefore question the adequacy of many government interventions. The traditional statistical programs and aggregate indexes that had been developed in the post WWII context of the expanding Welfare State had not been designed to provide the kind of information needed in order to assess which programs worked or not, for whom they were efficient and for whom they were not, for what reasons, etc. The movement for developing performance indicators may be seen as a response to that situation, as was the development of statistical programs more directed toward the understanding of micro-economic problems and the social behavior of specific sub-groups, with regard to health problems, unemployment, crime, etc. (Fellegi, 1999: 116) Relevant statistics are therefore defined as statistics that provide information susceptible to identify, to measure and to evaluate the effects of specific policies and programs or of variables themselves susceptible to affect the success or failure of these programs.²⁰ When they put forward relevance as a touchstone, statistical offices present themselves as the privileged source of intelligence thanks to which the government may account for its policies and the uses it makes of the taxpayer's money. From this perspective, cutting on statistical spending becomes a short-view and possibly self-defeating decision on the part of government; at the same time, this position remains credible only insofar as the statistical agency truly adheres to the principle of relevance and agrees to manage its own programs accordingly.

The issue of relevance has also been put forward, in Canada, to vindicate the peculiarly eminent position of the Chief Statistician within the political-administrative structure. Since 1965, Canada's Chief Statistician has indeed the rank of deputy minister,

which makes him a party to weekly as well as special meetings of deputy ministers (Fellegi, 1996: 168).²¹ This puts him, so to say, «right at the heart» of the policy planning process, but, of course, lays open the risk that the statistical office may get «politically involved» or be reproached of doing so, something which occurred regularly in Britain during the Thatcher years, when, for instance, definitions of unemployment were frequently subject to change. The path is indeed narrow, between the two perils of «doing politics» and «being irrelevant»: to quote Fellegi and Ryten, «it is in the public interest that the subjects that (a statistical agency) tries to illuminate are those at the top of government and society's concerns» (Fellegi and Ryten, 2004: 3). In a manner that well conveys how official statisticians walk on thin ice when aiming at relevance, Statistics Netherlands draws a line between producing «policy-relevant information» – which it considers falling under its mandate – and «actual policy analysis» – which it will not engage in (Statistics Netherlands, 2001: 7). Hence the insistence the official discourse puts on objectivity and political independence, which is sometimes presented as a kind of middle course: since there is «a widespread desire, shared by both right- and left-leaning organizations, to make government more effective», and since «fundamental to effectiveness is evidence-based policy planning and decision-making», there is, in the present period, «a historic opportunity for statistics» (Fellegi, 2003: 22).

The issue of *timeliness* has also been put to use in order to enhance political independence. Technically speaking, timeliness refers to the delay between the moment or period for which an information is relevant and the moment it is made public. Adopting a timetable for the release of each statistical series provides a means to assess timeliness, but, when it also ensures that this information is released to government and the public at – or almost at – the same time, any government intervention to impede the release of data will become apparent. The decision taken in March 2007 by the *Institut National de la Statistique et des Études Économiques* (INSEE), the French statistical agency, to postpone until November the release of its annual inquiry on employment, allegedly for methodological reasons but right in the middle of the Presidential campaign, has caused foreseeable uproar and suspicion of direct political intervention. In Britain, a number of problems regarding the timing of statistical releases – informing ministers well in advance of the public, making release of statistical information and that of policy implications coincide and having both handled by the same press office, «selecting» among the data that which could be published,

etc. – have been an ongoing concern for decades and have led to frequent charges of manipulating and preparing public opinion (Royal Statistical Society, 2008).

More generally, quality assurance has been a fertile ground for the development of a whole range of practices that have generated closer links with allies against potential threats coming from government (in the form, mainly, of political interference or budget cuts). This has been the case with clients in general, but more specifically with the National Statistics Council (created in 1985), with a number of professional advisory committees and joint committees with various government departments, whose assessment would be sought in the context of quality evaluation. Peer reviewing has also been a growing practice over the last years among national statistical offices: Canadians have been especially active in this regard, with peer reviews made by them of the Swiss (2000), Hungarian (2001), Chilean, and Portuguese (2004) statistical systems as well as of Eurostat (2005).²² These reviews dealt with the central issues of a system's adaptability with regard to evolving needs, its effectiveness in meeting client needs and its credibility in matters of quality and objectivity. Peer reviewing has the effect of disseminating standards: in Fellegi and Ryten's reviews, characteristics of the Canadian statistical system are strongly promoted as a benchmark and their own methodology for appraising the work of statistical systems has been promoted by others (Strode, 2005). Those who are being reviewed are also being provided with arguments they can use to ask for more resources in order to attain quality.²³

Conclusion

The idea of statistics as the «science of government» has been, from the mid-19th century on, a formative, recurrent and rallying theme of the discourse held by government statisticians in many countries. In this vision that conveniently merged a positivistic acceptance of science, an obvious leaning towards «high-modernist reformism» (Scott, 1998) with an undeniable share of bureaucratic self-promotion, Science and the State were closely intertwined as two instances of the «Universal». Though it may be expressed today in the more technocratic or managerial prose of good governance, performance indicators or total quality, this panoptical ambition, which sometimes bordered on fantasies of omniscience, has

far from disappeared, as exemplified by the «utopia» entertained by some Dutch statisticians and described by A. Desrosières (1999): that of a gigantic imaginary file with all the country's units (enterprises, households, or individuals) as lines and all possible variables as columns. Yet, the globalized neo-liberal context in which statistics evolve since the 1980s has significantly challenged some of the assumptions that underpinned this kind of view. As evoked earlier, relations between users and producers have been remodeled by the dissemination of technology and skills, giving way to a series of «democratizing» shifts. Some of these can be described as «top-down», such as the *Data Liberation Initiative* (1996), which dramatically lowered the cost of data for academics and students, or *Government on-line* (2005), of which Statistics Canada is a key provider. Others, like claims for statistical representation, i.e. by «visible minorities», and increased participation – amounting on occasion to threats of boycott or sabotage – of various advocacy groups in the preparation of censuses and surveys, may be described for their part as «bottom-up». At the same time, as we have seen, the language and praxis of new public management have largely permeated government statistics. Methodological coherence, which lies at the core of the statisticians' ethos, is also severely put to test by the simultaneous need of harmonization with foreign economic or political partners and of producing data that take into account regional and local characteristics: hence the importance taken by metadata, which seek to combine the benefits of standardization and transparency. The nature of the phenomena to be subjected to quantification and measurement has also evolved, with the already-mentioned interest for identity or self-perception or, perhaps even more significantly, with the shift, in developed economies, from a manufacturing basis and its physical production to the tertiary sector and its more abstract output in services and ideas. Concerns about ethics and privacy equally testify to the new normative environment that henceforth informs the activity of statisticians. The International Statistical Institute has adopted a code of ethics in 1985 and, together with the UN Statistical Commission, it has since then vigorously encouraged national statistical offices to do the same – but this was far from being a foregone conclusion, since the issue had been debated for over thirty years and had met forceful opposition on the part of a number of statisticians (Ellenberg, 1983). In a number of European countries, libertarians (mostly from the left) have campaigned against census-taking, portrayed in Orwellian terms, and, in the case of Netherlands at least, have been met with success.²⁴ The importance taken by «policy-relevance» as a yardstick of statistical legitimacy, finally, redefines the position of statisticians *vis-à-vis* government, on the one hand, and, on the other, various groups who,

given their own ends, have a stake in the numbers made public, their interpretation and the confidence they elicit (or not). Altogether, these new trends eloquently substantiate the proposition that a new statistical regime has been put in place, in which a whole set of new constraints regulate the production of objectivity.

¹ During its first year of existence, the BSQ amounted to ... Henri Bunle himself, who could rely only on some part-time help from a few other civil servants!

² For a general overview of the DBS and its forerunners, albeit from a rather narrowly administrative perspective, see Worton, 1998.

³ An interesting exception is that of Ontario, the most populated Canadian province as well as the heart of its economy, where a short-lived Ontario Bureau of Statistics and Research was dismantled as a part of government rationalization in the early 1990s without almost anyone taking notice, so it seems. A possible explanation might be that Ontario's size within Canada and its economy make it not much different from the whole and that a national perspective such as that of Statistics Canada provides a rather satisfactory response to its needs. Smaller provinces, by contrast, may have needs that do not always coincide so easily with Statistics Canada's national mandate.

⁴ As G. J. Brackstone argues, the most simple way to get at the regional or local level is to reconstruct it starting from the most basic data, that is data collected at the level of the smallest census geographic unit, the «block» or «block face» (2002: 118).

⁵ This 3rd edition of the UN *Handbook of Statistical Organization* strikes in fact a quite different chord from that of its earlier versions (respectively published in 1954 and 1980) on this issue of centralization. Instead of advocating it as the organizational ideal, it insists that complete centralization of statistics has never existed in any country and that centralization and decentralization should rather be viewed as a continuum (p. 12, it gives Canada and the United States as examples of countries located at either end of this continuum).

⁶ To illustrate this difference, J. Triplett (1993, 47) mentions the example of the United States who classified fish caught in the sea and fish produced on fish farms in different industries, while Canada tended to treat both as substitutes, adopting thus a demand-side approach.

⁷ Theoretical issues related to demand-side vs supply-side approaches were notably addressed at a conference on the classification of economic activities held at Williamsburg (Virginia) in 1991 and to which took part some Canadian statisticians.

⁸ The same has been said of American statistics, notably of their national accounts and industrial classification (Triplett, 1993).

⁹ An interesting case in point is the peculiar Canadian census question on mother tongue, which does not follow the apparently self-evident UN recommendations (mother tongue being the first language learnt) and remains controversial (since it defines mother tongue as being the first language learnt *and still understood*).

¹⁰ The *Istituto centrale di Statistica* (ISTAT) was renamed *Istituto nazionale di Statistica*, keeping its acronym but renouncing a pretence it had not lived up to.

¹¹ The quotes are taken from Rayner's recommendations which are reprinted as an appendix to the authors' paper.

¹² From 9001 persons employed in 1979, Government Statistical Service (GSS) was cut down to 4228 in 1989 – less than the 5942 of 1971 (Working Party on Official Statistics in the UK, 1991, 154: 37).

¹³ As exemplified by the titles of a string of papers and official reports on the issue, among which the 1998 Green Paper, *Statistics: A Matter of Trust*, the 1999 *Building Trust in Statistics*, and the 2006 *Independence of Statistics*, all issued by the Treasury.

¹⁴ More recently, the return to power of the Conservatives, in 2006, has led to another review of Statistics Canada's activities, but this time, it seems, with an eye on specific programs.

¹⁵ Significantly, the format of Statistics Canada's annual reports, which had more or less remained constant since the creation of the Dominion Bureau of Statistics in 1920, has radically changed in the mid-1990s: Statistics Canada now submits to the Treasury Board its annual «performance report» arranged according to the expenses and results of each «program».

¹⁶ Sources : Australian Bureau of Statistics. 2006. *Annual Report 2005-06*, Canberra: Australian Bureau of Statistics; Statistics New Zealand. 2006. *Annual Report of the Government Statistician for the year ending 30 June 2006*, Auckland: Statistics New Zealand; Statistics Canada. 2006. *Statistics Canada 2005-2006 Performance Report*. Ottawa: Treasury Board of Canada.

¹⁷ Another good recent example of this overlapping of values which originally emerged in various contexts and periods is provided by the *Institut de la Statistique du Québec's* «Declaration of services to the public» (2003):

«The *Institut* deemed it appropriate to define its management values and to make them public through its Declaration of services to the public. Thus, the *Institut's* clientele is at the center of its development strategy, which focuses on the following management values:

- Objectivity, political neutrality, impartiality, integrity and the respect of the confidentiality of the information in its possession are fundamental values.
- The quality of its products and services is an ongoing concern of the *Institut*.
- The *Institut* accords its highest priority to satisfying its clientele and respecting its survey respondents and other data suppliers (...).»

¹⁸ This was the text of an address originally delivered in 1958 before the Institute for Mathematical Statistics.

¹⁹ See, for instance, the whole issue of the *Journal of Official Statistics* (17, 1, 2001) devoted to a debate around R. Platek (formerly of Statistics Canada) and Carl-Erik Särndal's paper «Can a Statistician Deliver?».

²⁰ To get an idea of the extent of Statistics Canada's reach, we may mention that, presently, besides the Constitution and the Statistics Act, no less than 40 Federal Acts entrust the Chief Statistician or Statistics Canada with collecting or disseminating data on various topics. Besides these legally binding statistical programs, a number of other programs flow from federal government Cabinet decisions (21), from interdepartmental undertakings (5), and from federal-provincial undertakings (3); finally, another series result from initiatives taken by Statistics Canada in consultation with advisory committees of users and address other public policy needs (10) as well as research and development.

²¹ The present Chief Statistician is also, as it happens, the most permanent member of this select club, since his nomination goes back to 1985.

²² Ryten's review of Chile's statistics has not been made publicly available.

²³ The assessment of quality – or, more precisely, examining if an agency has put in place practices to assess the quality of its work – may also fall under the mandate of independent authorities: in Canada, this is the job of the Auditor General. Since such assessments are unlikely to conclude that no improvements can be made, they will also tend to be used for protecting existing levels of funding.

²⁴ With the paradoxical result of extending already thorough administrative registers, which in North America would be deemed much more invasive than the census. France has also, as mentioned above, moved from census to sampling, but for wholly different reasons. An interesting Canadian privacy issue has been that of the indefinite confidentiality of individual census forms as promised by the 1918 Statistics Act. A fierce debate has recently opposed, on the one hand, historians and genealogists, who were in favour of releasing this information after a given period – as was the case in the UK or the US – and argued on the basis of scientific interest, and on the other hand the Office of the Privacy Commissioner, intent on strictly protecting personal data and advocating their destruction, and the Chief Statistician, who was worried about the effect on public confidence of what could be seen as a breach of promise. Finally, a compromise was found : the information contained in the returns of censuses made between 1910 and 2005 would be made public after 92 years; from 2006 on, census respondents were to be asked if they wished or not to have their returns disclosed after 92 years (55,58% gave an affirmative answer).

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