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Intelligence Analysis Under Pressure of Rapid Change: The Canadian Challenge

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INTRODUCTION

The Canadian intelligence analysis arrangements are currently in trouble. The number of analysts in the Canadian Intelligence Community (CIC) is too small to meet the new and varied policy needs of the government. The chronic inability of the CIC to coordinate analysis activities to ensure optimum production of information and use of personnel has reached critical levels. Perhaps, above all, there is an inability not unique to Canada to decide on the proper role of intelligence in a world where priorities, relationships, threats and power structures keep changing at an accelerating pace. The present arrangements are likely to be temporary, and some correctives to be only evolutionary. But, the fact remains that the system as it stands is unworkable and hence unstable. Whether or not those concerned agree with this diagnosis, let alone the counsel offered, the CIC is necessarily in a state of transition that offers both tests and temptations to exploit new opportunities.

The primary reason for the current instability is that by establishing a central analysis unit, the Community has virtually lost the capacity to do foreign policy or economic analysis. Unfortunately, this has been done without gaining either the central authority of the British Cabinet Office system to obtain immediate and expert support in any field,¹ or the "critical mass" of intramural expertise sufficient to stand alone, as does the Australian Office of National Assessments.²

In order to justify these conclusions, this article first deliberately adopts broad definitions of "intelligence" and "security." Then, to set the local stage, it offers a few very subjective thoughts regarding Canadian attitudes toward both subjects. It then looks at some of the major developing trends in this rapidly-changing global society that have particular relevance to intelligence analysis. Finally, given this critical and limited context, the article describes briefly the Canadian intelligence analysis arrangements as they have developed over recent years, outlines the current dilemmas facing the CIC, and puts forward some proposals as to how they might be met.

THE NEW MEANING AND FEATURES OF "INTELLIGENCE" AND "SECURITY"

Those who argue simply that intelligence is outdated or marginal in the post-Cold War world, or alternatively that more is needed because of the increased level and prospect of

violence, either ignore or misinterpret its new and widening function. This is one important result of what Daniel Bell calls the "post-industrial revolution" that now dominates change and drives global affairs. Another trend is to rapidly expand the essential meaning of security to include many threats other than mass state-to-state violence: availability of vital resources, terrorism, natural catastrophes, viruses, mass migrations, etc. ³ Meanwhile, sovereign governments are becoming only one level among a variety of interdependent power- and decision-centers. ⁴ Necessarily, this broadens the perspective on the nature and role of intelligence in this era.

There is no single official Canadian definition of intelligence. For the purposes of this article intelligence is any information or views about "the other side," selected and impartially analysed to assist those involved in any policy-making process. The policy involved thus can be related to any subject, and is certainly no longer limited to actual or potential "enemies." The policy makers need not be governments. The value of any intelligence analysis relates to the importance of the policy decision involved, its own accuracy and objectivity, and the relevance of "the other side" to the decision.

There is nothing inherently secret about intelligence as defined. Indeed the vast and increasing bulk of relevant information is derived from open sources. *A fortiori* there is nothing illegal or secret about intelligence analysis, although some key contents may be obtained by surreptitious means because "the other side" does not want to share it. Traditionally, most intelligence has related to military or sensitive government matters (strategic or tactical) and has been collected in the context of a war or other serious conflict of interests between states. This has naturally served to emphasize intelligence's identification with state actions, confrontation and deadly competition.

However, the basic characteristics of intelligence have changed in recent years. First, the type and variety of information relevant to policy formulation have increased enormously, at least partly because the accepted perception of what constitutes security threats to modern societies has gradually broadened. ⁵ Second, the nature and form of most intelligence-related information is constantly changing. Its volume and accessibility, including from space, have vastly increased, and most is now recorded and transmitted electronically. ⁶ Both developments affect the sources and handling of material relevant to intelligence analysts and tend to lower its final classification. This latter is fortunate; with the rapidity and interdependence of change in every field, analysis must be available faster and more frequently for policy makers to keep up with events. All this is quite independent of the political and economic developments that resulted from the end of the Cold War. ⁷

Governments have traditionally been the most dedicated and profligate organizations collecting and preparing intelligence because their policy decisions including the waging of wars have been the most expensive, and critical to large numbers of people. This also may no longer be true; interstate wars are very rare. Governments' unique ability to influence, let alone control, world events is increasingly constrained, and yet their forms of involvement with "the other side" are proliferating. At the same time, other forms of organization manufacturing, financial, advocacy (Non -governmental Organizations

NGOs) are increasing in number and power. They have both the resources and motivations to engage in intelligence collection and analysis; indeed their survival may actually depend upon it.⁸

This, then, is the intelligence environment and the challenge faced by the CIC. It is a auspicious time to be forced to adapt.

THE CANADIAN ATTITUDE TOWARD INTELLIGENCE

Canada and Canadians appear to have been traditionally less interested in the role or even the alleged "adventure" of intelligence than, say, the Americans or British, perhaps because it is regularly lumped together with defence and security. This in turn may be partly because of the peculiar nature of Canadian history, geography and geopolitics, all of which profoundly influence any society's subconscious perception of the world.⁹

Geographically whatever may have been said during the Cold War about being sandwiched between the two superpowers Canada has been for almost two centuries just about the safest country in the world. In practical terms, it can be militarily threatened only by the US. Since that state for many decades has been the world's strongest military power, and for centuries has vastly outnumbered and out-produced Canada, Canadians have also known subconsciously that they are ultimately unable to defend themselves against Leviathan. Since the US must defend North America against serious military attack by any outside state, a totally defenceless Canada could theoretically entrust its entire military security (and hence its national sovereignty) to the Americans.

In the historical sense, too, Canada has always had a sponsor the French, the British and then the Americans at precisely the times when the latter two were the strongest powers on earth. In that sense, Canadians for good or ill have never been alone. No other major country has been in quite the same position of never having had to take its own defence seriously.

This does not mean that Canadians have been inclined toward pacifism, even if many immigrants came specifically to avoid violence elsewhere. On the contrary, Canada's military contribution in both World Wars was extraordinary for a country of its size. But these contributions were not offered without serious and strongly felt domestic debate. More important, participation was connected to belief, adventure, loyalty or honor, not perception of direct threat; all wars were distant. Consequently, for at least a century, war for Canadians has been in a certain sense *optional*.

In spite of the broad definition above, and justifiably in most respects, intelligence has traditionally been connected with war and enemies. To the extent that collecting and using intelligence is seen as a defensive act undertaken by states to survive in a dangerous, anarchical, Realist world, this activity has perhaps also been seen as optional for Canada. Canadians have acted and contributed sometimes critically, substantially, and not without danger to "our side." The Canadian intelligence product, including from our representatives abroad, has been generally good, if limited in scale.

However, it is probably safe to say that for the vast majority of Canadians, intelligence has never been subconsciously tied to *survival*. This was less a matter of morality than of priority. The size, resources, role and prestige of the intelligence profession has reflected this mind-set in several ways. Except in the SIGINT (signals intelligence) field, Canada has not established a secret foreign intelligence service. The profession has never gained the popular reputation it achieved in, for example, Britain, which enabled it to attract the "best of the best." Finally, those in charge of coordinated national intelligence analysis have never achieved the authority to demand participation in preparing analyses as has the British Cabinet Office.¹⁰ Nor has it been felt necessary or possible to appoint a single intelligence "Czar" with direct access to the head of government and semi-cabinet rank, chronically a major issue in the US.¹¹ In many ways, Canadians' relatively casual mind-set toward intelligence is no longer appropriate or affordable for any society but particularly for one like Canada.

THE GLOBAL CONTEXT AND CHALLENGE

Consciously or unconsciously, intelligence activities all over the world are being forced by global trends to confront basically new challenges and opportunities. These are not simply the "New World Disorder," although their most outward and visible symptoms include ethnic violence, societal disintegration, major local food and migration crises, and increased terrorism. Many of the trends have been accelerating for decades, and some caused, rather than resulted from, the end of the Cold War.¹² These are simply some of the most apparent *effects* of a global transformation process often identified as the post-industrial revolution or knowledge society. The process is driven inexorably toward constant change mainly by the self-generating power of technology, and it affects willy-nilly every aspect of every society on earth. In responding to this revolution, Canada may have more room for maneuver and error than many countries. But one fact is clear: society's need for more accurate and varied information about others' actions, plans and capabilities increases exponentially as security threats and interdependence expand globally.

Foreign intelligence is in no way optional. Canada has the world's second largest and most vulnerable (Arctic) area of ecological responsibility, and the world's longest coastline. Canada's harsh climate, combined with the world's highest per capita energy consumption, and extraordinary dependence on electric power, makes Canadians exceptionally vulnerable to system disruption, terrorism and blackmail.¹³ Even among rich industrialized countries, Canada's dependence on imported seasonal food and on international trade generally is unusually high. The long border is completely indefensible against virtually any type of credible security threat from paramilitary to parasites. In a political sense, too, Canada may be uniquely vulnerable. Quite apart from Quebec's differences with the rest of Canada, the official policies of substantial permanent immigration and multiculturalism, whatever their undoubted values, involve an already highly diversified country with almost every ethnic issue worldwide.

What are the principal characteristics of the post-industrial or information society that

particularly affects intelligence analysis? There are numerous books and studies on the basic metamorphosis taking place throughout world society.¹⁴ One fact they all seem to perceive in common is that the revolution is driven by *knowledge*, and that knowledge now constitutes the most critical form of power. Alvin Toffler argues that there are only three basic sources of power: violence, wealth, and knowledge, and that today, knowledge has become both dominant, and essential to the others.¹⁵ Harlan Cleveland identifies six peculiarities of information: it is expandable; it is not resource-hungry; it is substitutable; it is transportable; it is diffusive; and it is shareable.¹⁶ Intelligence is above all the careful and purposeful manipulation of available knowledge; its essence and possession therefore coincide specifically with success and survival in the revolutionary society. Intelligence is about knowledge par excellence; in a sense it is the epitome of power management.

Second, post-industrial society is one that is increasingly interdependent. What happens anywhere or in any process often has a greater effect upon other events than in the past. Partly this simply shows a greater scientific and public awareness of what has always been true. This new reality and perception have direct implications for intelligence analysis simply because never were the capabilities and intentions of "the other side" so evident, numerous, varied, interlocking and consequential. Relevant events can take many forms: collapsing or rogue states,¹⁷ mass migrations,¹⁸ pandemics,¹⁹ ecological and/or resource crises,²⁰ terrorism and mass blackmail,²¹ financial, corporate or general economic breakdowns, possibly caused by technology,²² weapons and narcotics development and proliferation,²³ and ethnic confrontations.²⁴

Wherever they may take place, no society on earth can now simply insulate itself from these events with either money or arms. Indeed, as international trade, financial exchanges, transportation and communications, and environmental damage increase exponentially, the visible and invisible global links become stronger. Canada's policy makers, for reasons already given, must pay particular attention, and intelligence analyses must help make the policy decisions the right ones.

Third, intelligence has traditionally been concerned with that security which arises from violence or its threat. Violence is indeed likely to increase globally for several reasons. While they may take the forms of or be triggered by the events listed above, several broad global background trends make violence the end result, with security, policy, and thus intelligence, implications. The triggers may include gross economic inequities made painfully evident by modern communications; the incomplete or inadequate breakup of multi-ethnic and/or autocratic regimes; cultural -religious backlash to Western-identified modernism; or sheer physical desperation. Perhaps most ominously, almost all the 90 million annual increase in world population is being added in those poor and often already crowded countries least able to absorb them.

Even under generally improving conditions, there would be billions more potentially and legitimately angry, desperate, unhappy, hungry, frustrated and possibly violent people alive today than ever before. In practice, the personal experience of much of the world is actually one of increased deprivation, both absolutely and relatively.²⁵ The standard of

living in many countries has actually been decreasing.²⁶ The accelerating revolutions in mass communications and transportation make billions more aware each year of their relative privation and the physical possibility of moving to where the standard of living appears incredibly higher. Indeed the mere fact of accelerating change and scale puts pressure on almost all institutions and cultural certainties. All this produces rapid shifts in power structures and chronic political turmoil.²⁷

If intelligence analysis is expected to continue to give priority to threats of violence its anticipation, prevention and control there will be much more work to be done. This applies particularly to a country that for decades has decided that it is in its national interests to give priority to worldwide UN peace-making, and is committed to continuing this policy.²⁸

THE CANADIAN INTELLIGENCE SYSTEM

A generally decentralized intelligence community, the CIC, emerged after World War II, mainly as a result of the Cold War. Up to that point Canadian intelligence activities were so small, ad hoc or subordinate as to be irrelevant here. The first "real" system of independent intelligence analysis was a copy of the British system.²⁹ By 1960, there was a Joint Intelligence Committee (JIC) meeting weekly, which coordinated (using informal drafting groups) jointly approved analyses, without any analytical staff of its own. Hence the vast majority of analyses were essentially drafted and distributed (mainly internally) by appropriate departments. The largest intelligence analysis elements were found within the headquarters of the Departments of National Defence (NDHQ), which has a very small professional intelligence service, and External Affairs (now the Department of Foreign Affairs and International Trade DFAIT), which simply assigned some of their regular foreign service officers to intelligence analysis duties during home postings. There was and is no equivalent to either the career research and analysis staff of area specialists in the Foreign Office, or to the State Department's Department of Intelligence and Research (INR). In other words, External had no area specialists of any sort mainly by their own choice, initially no career analysts of any sort, and indeed no "institutional memory" of an area to call on at headquarters, unless a country desk officer happened to have been posted sometime to his/her area of responsibility.

Canada has a small signals intelligence agency somewhat like the British General Communications Headquarters (GCHQ) or the US National Security Agency (NSA). It was first identified as the Communications Branch of the National Research Council (CBNRC), but now constitutes the Communications Security Establishment (CSE) within DND.³⁰ It undertakes only minimal analysis. A Joint Intelligence Bureau which, like its British equivalent, dealt with economic and some technical intelligence analysis, was officially attached to the Defence Research Board and was comprised of career personnel (but with very high turnover). Until the Canadian Security Intelligence Service (CSIS) was created in 1984, the Security Service of the Royal Canadian Mounted Police (RCMP), which operated somewhat like the British Security Service (MI5), carried out defensive domestic intelligence functions, but like the Federal Bureau of Investigation (FBI) was also part of the national law enforcement system.

Cooperation with the US, UK, Australian and New Zealand intelligence systems was close, mainly as a continuation of wartime cooperation. Although the allied system was supposed to be mutually beneficial, Canada was a small player as a rule, and may have been more useful to the allies for its geography than its intelligence analysis. One reason is that Canada has never had an equivalent to the British Secret Intelligence Service (MI6) or the US CIA with responsibilities abroad, although the subject has been discussed many times.

The end result has been a chronic shortage of specialized, career analysts (except perhaps at NDHQ), and a highly decentralized system where each element was inclined to use and keep its own raw material and look after the interests of its own department. The central coordinating authority had very little power or even priority. The subliminal "optional" approach to intelligence mentioned earlier may have contributed to this.

By the 1990s the CIC had changed its structure in several ways over a period of time. The Joint Intelligence Bureau had been transferred in almost its entirety to what is now DFAIT, although DND maintains a Directorate of Scientific and Technological Intelligence, in addition to its main military intelligence analysis capacity in the Directorate of Defence Intelligence (DDI). While the function of economic intelligence was first maintained as a bureau within External, it was eventually reduced to a single division.

In accordance with the recommendations of the McDonald Royal Commission, the Security Service was separated in 1984 from the RCMP and became CSIS. It has no criminal investigation functions, but carries out significant security intelligence investigative and analysis responsibilities for the government as a whole. The JIC had been renamed the Intelligence Advisory Committee (IAC) and assigned a small coordinating staff within the Privy Council Office (PCO), but no direct analysis responsibility. The PCO itself has a government-wide coordinating role, although its authority particularly vis-à-vis the Prime Minister's Office varies over time. Other federal departments (Immigration, RCMP, Customs, Solicitor General) have maintained or developed some specialized intelligence analysis capacity but rarely contribute to major IAC reports.

Recently, a major change in staff and responsibilities took place. For years there had been discussion about the need for some sort of central assessment staff, since departmental analysts naturally were expected to look after their departmental demands and needs first. In addition, as indicated above, no way had been found to give real authority to any central coordinating body or individual in the face of long-established departmental autonomy and priorities and the coordinating rather than executive role of the PCO. Also, quite apart from any perceived need for a change or reduction in the role of intelligence with the end of the Cold War, the federal government was running into serious fiscal problems and has felt it necessary to reduce almost all departments' funds and authorized staff.

In 1993, it was decided that the need for a central assessment capacity, and the further reductions being required of DFAIT in both its budget and its personnel, made it advisable to effectively transfer its responsibility and capacity for foreign and economic intelligence to the PCO. As a result, the latter created an Intelligence Assessments Secretariat (IAS) with both coordination and assessment functions, using the extremely limited resources transferred from DFAIT. The result of these moves is that Foreign Affairs has been left with virtually no intelligence analysis capacity. Simultaneously, while the IAS is very much smaller than the former intelligence analysis staff of DFAIT (down from about 35 analysts to 13), its responsibilities are considerably broader. These include government-wide coordination and analysis, but without any formal DFAIT input. Moreover, however willing they may be to help the IAS, DFAIT desk officers are not experienced as analysts, often have not previously visited or dealt with their current areas of responsibility, and are fully occupied with operational activities. ³¹

The Assessment Process

In a more positive light, under the current system participating government entities are encouraged to share their information and views, both with the IAC and with other assessment units. This helps to avoid duplication and overlap, and often provides basic material for IAS products that would not be available otherwise. Many of the departmental experts on issues of interest to the CIC are brought together in IAS Interdepartmental Expert Groups (IEG's), which have the principal responsibility for producing finished intelligence. The IEG's can be either ad hoc to meet special requirements, or of a standing character to deal with continuing areas of intelligence concern.

A real attempt at consensus is made within IEG's, whose output is finally approved at either the IAC itself (Senior ADM's and DG's of the CIC, chaired by the Deputy Secretary to Cabinet for Security and Intelligence), or at the newly-formed Approvals Committee, comprising senior officers of PCO, CSIS, DND and DFAIT, plus the department originating the assessment. Dissenting opinions are permitted although discouraged.

The Main Products

Currently, the main products of the collective system of the CIC (i.e., the IAC) are first, *Intelligence Reports* (IR's). These run about 2-5 pages in length, mostly the former, with maps, charts and annexes as appropriate. They are normally given the full "finished intelligence" treatment, with interdepartmental input, coordination at IEG's, and approval by the IAC.

Second are *Immediate Intelligence Reports* (IIR's). These are shorter products, usually 1-2 pages, intended to capture the essence of an urgent or critical situation, or currently "hot" issues from the security or intelligence perspective. They are prepared quickly with the involvement of those departments and agencies most centrally concerned with the issue and are released on the authority of the Executive Secretary of the IAS, although

they may be brought forward for discussion at the full IAC.

Third, as required, *longer reference documents* are prepared for release through the relevant IAC process. CSIS and DND analysts and the DFAIT Operations Centre also produce a range of products, varying from those of longer term, strategic perspective to current intelligence briefs. Again, these are normally provided to the IAS. The degree to which they depend on open versus secret sources will vary from report to report. The Director of CSIS told the 1994 Canadian Association for Security and Intelligence Studies (CASIS) Conference that ". . . intelligence professionals rely on open sources of information for up to 80% of the input to their analysis. . . ."

Personnel

Analysts both career and temporary come from a wide variety of backgrounds, disciplines and government departments, particularly in the IAS. Language knowledge and foreign experience are assets in many fields. There is a modest program, limited by current resources, of secondments to components of the intelligence community from outside departments and agencies, as well as exchanges of personnel within the community itself. Strategic analysts in CSIS, for instance, may come from academe or other specialized backgrounds on contract. The majority of regular analysts in the IAS, CSIS, DND and CSE have post-graduate degrees, as do most DFAIT foreign service officers.

Specialist training varies from agency to agency as does professional skills development in analysts. CSE recently advertised for university graduates for analysts, noting that "graduation in fields such as economics, international business, commerce . . . would be an asset." On a short-term basis, the system can also call on expertise elsewhere in government, for example at IEG's, and for unclassified publications.

Analysts who have the talent and desire to become managers have done so successfully, while outside managers have also been brought in. Managers are responsible mainly for giving direction to priorities, analytical standards, client needs and necessary support. Analysts are encouraged also to keep in close, direct and regular contact with clients as regards their changing policy needs, for current and specialized information, and as analyses are developed. Clients also provide expert advice as to optimum dissemination of the finished product.

Clients

On the basis of feedback from allies and Canadian clients, the CIC appears to have succeeded in providing timely, focused and policy-relevant advice in spite of recent turmoil. Client feedback services have recently been strengthened by the establishment of a Marketing and Client Liaison Unit in CSIS, while CSE Customer Relations Officers (CRO's) have long worked closely with their clients and are constantly aware of their perceived needs and of what might be relevant to them.

A client list developed over the years on the basis of knowledge of varied departmental requirements is constantly reviewed. To increase the speed of dissemination after production, the CIC is now moving to electronic means as technology and security permits. This applies to information disseminated both in Canada and abroad, to Canadian posts and allies. CSIS has developed a computer-based system which, in collaboration with customers, permits the categorization of client requirements, bringing these to the attention of collection and analytical components. The system, called Intelligence Requirements Management System (IRMS), prepares necessary transmittal documents and tracks delivery of intelligence for security and accounting purposes. It also collates feedback from clients and is, therefore, a valuable tool in the intelligence cycle. IRMS is now available to the IAS and has been examined for possible application within the RCMP, DFAIT and by some allies, notably Australia and the US (FBI). The system provides for direct delivery to individual clients and permits the provision of specific information as well as broader finished intelligence. Every attempt is made to apply the lowest level of classification consistent with good security.

EFFECTS OF RECENT CHANGES

It is clear that, largely as a result of the recent major changes in the IAS and DFAIT, the CIC currently suffers from three handicaps that will have to be addressed in some manner. First is *staffing*. Any country, even one working closely with others, must maintain a minimum critical mass of qualified intelligence analysts because of the growing volume and variety of analyses required to ensure sound policy formulation. Canada could not now maintain such a minimum critical mass in the IAS, let alone DFAIT, even if all the staff available were ideal professional specialists being used in the optimum possible way. There is simply too much relevant knowledge to absorb, process, analyze and disseminate. Worse, the government's policy of down-sizing the civil service and reducing the deficit means that even the best combination of transfers and contracting out will leave insufficient capacity to meet minimum needs.

Second is *coordination*. Even a state with a more than adequate pool of analysts has difficulty making optimum use of them. They are rarely located in one organization and/or have one source of tasking. Most of them work mainly or wholly to meet the needs of one government department (Defence, Foreign Affairs, etc). While this has many advantages, it results at best in duplication and/or gaps in analysis. At worst it produces competition. The CIC has always suffered from decentralization, and imperfect cooperation and information exchange among its various parts. This has meant under-reporting for the top levels of policy makers and departments particularly technical ones that do not have their own analysis capability. Moreover, at the moment, the PCO's mandate seems to be both unclear and insufficient. Hence, regardless of the quality and adequacy of its intelligence staff, the central coordinating authority is currently unsatisfactory.

Third is *information*. Today, the principal difficulty facing both policy makers and intelligence analysts everywhere is information overload. However large an assessment staff a given agency may have, it must deal with more and more varied data than it can

possibly handle. As the world and governments become more complex and interdependent, more data become relevant to decision-making. Simultaneously, the volume of information available increases at an even faster rate. Hence intelligence analysis is increasingly a process of selecting a tiny number of relevant facts out of the infinite number available, planning them in context, and drawing them and their significance to the attention of the appropriate policy makers, quickly enough so the relevancy is not lost. Here again the CIC suffers: it does not have a complete and common all-source pool to draw upon, which again makes for duplication, gaps, and above all could permit incorrect assessment. More seriously, even the large amount of incoming information overloads the few available analysts, and is often received only in forms that make it difficult for them to concentrate on policy priorities.

POSSIBLE OVERALL SAVINGS AND IMPROVEMENTS

To respond to the problems identified, there appear to be three general directions that might be followed to get the most and best intelligence analyses from the current very limited CIC resources. One involves expanding domestic and international *cooperation* in analysis so as to reduce any significant analytical duplications and lacunae to a minimum, not simply within the CIC, but in company with other countries and organizations whenever interests coincide. Another involves undertaking whatever CIC organizational adjustments are necessary to give intelligence a greater and more useful role, and its PCO elements in particular greater *authority*, to ensure that national policy priorities are understood and followed, and that the most appropriate personnel and sources are made available quickly to provide the relevant analyses. Finally, and again on the assumption that analytical personnel and resources will be scarce for some time, it involves exploiting *electronics* to the maximum in order to get the greatest value from all the personnel and information that are available.

Greater Intelligence Cooperation

Since any turbulence is destabilizing in an interdependent world, all countries have a direct and collective interest in easing or restraining the acceleration of such situations. ³² Intelligence can be critical to anticipating, understanding, preventing, easing, or ending such situations.

To the extent that at least some intelligence is secret, its growing importance presents entirely new security problems. Electronic information will always face the challenge of hackers and problems of controlling any unwanted distribution and misuse of sensitive information. Like arms proliferation, this is a serious, unavoidable, but probably containable problem over time. Total security or insecurity are unlikely, even for short periods. Over the medium-term, the problem is essentially one of constantly changing judgement and balance: do the dangers of release of information into possibly the most malevolent hands outweigh the advantages of its availability to those who can make "good" use of it?

A background factor is much more relevant to the broader distribution of intelligence.

The two main characteristics of the post-industrial or information-driven world that now dominate and drive global society are the power, volume, growth and ubiquity of all types of knowledge, and the growing interdependence of events anywhere on earth. Within necessary security limitations, the exchange of many forms of information/intelligence worldwide is therefore increasingly feasible and widely beneficial. In contrast, withholding valuable knowledge and analysis from the United Nations may well be increasingly self-defeating, since international stability and even Canadian lives may depend upon UN bodies, military commanders, and negotiators making the right decisions.³³ Much if not most intelligence can safely and constructively be shared with many others, sometimes even with "the other side" itself. The question to ask is "why shouldn't we share?" rather than "why should we?" The answer and results may be surprisingly positive.

Coordinate Better: Possible Institutional Options

Several possible bureaucratic rearrangements could at least partially address the three general problems outlined above. First is the transfer of at least the analytic staff from the PCO back to DFAIT. The advantages would be that foreign policy-related intelligence analysis would to some extent be carried out again, in the same location as the consumers, and hopefully in close and constant consultation with them. The disadvantages would be that no analysts would be specifically assigned to prepare broad general briefing material for central policy planners in the PMO and PCO, central coordination and distribution would if anything be further weakened, and the total and currently inadequate number of CIC analysts would not be increased or more economically used.

Second is to leave the present arrangement as it is for the time being in the hope that it will "shake down" and/or evolve into a more effective variation. The advantages of this would be that it would be responsive to needs as they become evident and require priority reaction. It might also force some creative and inter-related changes in the PCO and DFAIT. The disadvantages would be that things might get even worse, possibly even encouraging further cuts.

Third is to change the responsibility for the IAC and the IAS from the PCO Deputy Secretary to Cabinet for Security and Intelligence to that for Foreign Affairs and Defence. The advantage would be that the chairperson of the IAC would have direct responsibility for the main content, rather than the process, of intelligence, and consequently also have direct and regular contact with senior personnel in the two main consumer departments. The disadvantage could be that these two departments would more than ever dominate the selection of analyses, without encouraging DFAIT to assign more analytic staff.

A final option would be to give CSIS assessment staff more direct responsibility for foreign intelligence analysis and reporting. The advantage is that this would formalize what is increasingly becoming the reality without requiring any legislative change. Canadian security is already defined broadly and can be influenced by events anywhere abroad,³⁴ while the CSIS mandate is to serve the entire government. The disadvantage

would be that an organization with no authority for intelligence collection abroad other than through its liaison relationships would become the main producer of foreign intelligence analyses.

Exploit the Information Super-highway ³⁵

Intelligence assessment has always been a labor-intensive operation. However, the CIC at the present time suffers more than anything else from a shortage of analysts. Hence any action or aids that can improve analysts' productivity must be given high priority. The CIC has already provided PC's for every analyst's desk and begun computing intra- and inter-agency communications, and can hold time-saving conference calls. The main constraint is not information: INTERNET is available, the Encyclopaedia Britannica is on CD-ROM, selections from all the written media and soon all of the Foreign Broadcast Information Service (FBIS) can be called up. The main constraints might be summarized as security, selectivity and synthesis. First is *security*. Means have been found to provide safe communications at various security levels. The immediate problem for an analyst or client with room for only one PC screen is to honor the security requirements of different types of material. For the PC the problem is to match the top security level of access with each user. If this can be solved, and so long as the user provides appropriate identification, various security levels of information might be fed in turn through the same screen. The analyst could then remain in situ forever!

Second is *selectivity*. The next problem to be overcome is information overload. An analyst or customer does not just want to get a list of all available information on a subject through key words or combinations. Such word selection has been possible for many years, and is invaluable for avoiding garbage or informing the consumer whether material on a certain subject is available. With a virtually unlimited data source available, an analyst, client or intelligence "contractor" must be able to be much more specific in his/her selection. Database query must therefore continue to be developed in order to become more and more selective as the database becomes greater and the time available for retrieving relevant material shorter.

The final constraint is *synthesis*. Ultimately this is asking for a robotized analyst, but short of that some progress can be expected. Here the software would not only scan the relevant information, select from it, and summarize the selection, but also draw some conclusions from the summary. This is already done in other fields of much less security importance than, say, tactical intelligence, where possibly minutes or seconds count and lives are at stake. The point of all the above, which is not new, is simply a reminder that current and foreseeable computer capacities have a direct and particular value for intelligence analysis; and a country like Canada, with a particular shortage of analysts, may have to be in the forefront of developing and exploiting such capacities.

CONCLUSION

No one can deny that the CIC is facing significant problems in attempting to carry out its analytical role with the current size, allocation and authority of its resources. However,

the new and constantly changing importance of intelligence for the Canadian government makes it imperative that these problems be solved as soon and cheaply as possible. Fortunately, Canada is not alone in this dilemma; many other countries and friendly organizations are grappling with the same issues. If the prime characteristic of any good intelligence analyst is creative manipulation of knowledge, the CIC's analysts and managers will have to be creative in their search for solutions to Canada's intelligence assessment problems.

Endnotes

1. For the British experience, see Michael Herman, "Assessment Machinery: British and American Models," *Intelligence and National Security*, 10, no. 4 (October 1995).
2. For the Australian experience, see A.D. McLennan, "National Intelligence Assessment Australia's Experience," *Intelligence and National Security*, 10, no. 4 (October 1995).
3. There are many rationales for broadening the concept of security; for a major study based on such a rationale, see, for instance, Janne E. Nolan, ed., *Global Engagement: Cooperation and Security in the 21st Century* (Washington, DC: The Brookings Institute, 1994). The case for including environmental issues is found in Jessica Tuchman Mathews, "Redefining Security," *Foreign Affairs*, 68, no. 2 (Spring 1989), pp. 162-77. The case for equating security with food is made in Lester R. Brown and Hal Kane, *Full House: Reassessing the Earth's Population Carrying Capacity* (New York: W.W. Norton, 1994), particularly pp. 32, 48-49, 212. The Canadian Government officially takes the broad interpretation; see *Canada and the World* (Ottawa, 1995), pp. ii, 25: statement in response to the Special Joint Parliamentary Committee.
4. The divergence of power from sovereign governments is a subject of intense political and economic interest. See, for instance, Walter B. Wriston, *The Twilight of Sovereignty* (New York: Charles Scribner's, 1992); Kenichi Ohmae, *The Borderless World* (New York: Harper Perennial, 1991); or Mathew Horsman and Andrew Marshall, *After the Nation State* (London: Harper Collins, 1994). The broader implications are analysed in James N. Rosenau, *Turbulence in World Politics: A Theory of Change and Continuity* (Princeton, NJ: Princeton University Press, 1990).
5. See Allan E. Goodman, "Shifting Paradigms and Shifting Gears: A Perspective on Why There is No Post-Cold War Intelligence Agenda," *Intelligence and National Security*, 10, no. 4 (October 1995).
6. The series of books by Peter Drucker and Alvin Toffler make this case in many ways. See endnote no. 14.
7. The relationship between the post-industrial revolution and the end of the Cold War is direct but the sequence a subject of study. See, for instance, Christopher O. Spencer, "Did the Soviet Union Know Too Much or Too Little?" (unpublished post-graduate essay, Carleton University, 1991).

8. See, for example, Alvin Toffler, *Powershift* (New York: Bantam, 1990), chapt. 24.
9. See "New Themes in Canadian Security," *International Journal*, 42 no. 4 (Autumn 1987). In this theme issue Desmond Morton, "Defending the indefensible: some historical perspectives on Canadian defence 1867-1967," pp. 627-44, deals specifically with Canadian attitudes toward war.
10. Herman, "Assessment Machinery."
11. For a recent discussion of this issue, see John Hollister Hedley, *Checklist for the Future of Intelligence*, Occasional Paper, (Washington, DC: Institute for the Study of Diplomacy, Georgetown University, 1995).
12. Spencer, "The Soviet Union."
13. For a hypothetical scenario in which a handful of terrorists close down the US, see G. Gordon Liddy, "Rules of the Game," *OMNI*, (January 1989).
14. The literature on the subject of the speed, nature and implications of current global change is enormous, and varies from the "gee-whiz" to weighty theoretical analyses. The following short list concentrates on some of the more influential sources that also have relevance to intelligence analysis. The concept of post-industrial society allegedly originated with Daniel Bell, *The Coming of Post-Industrial Society* (New York: Basic Books, 1973). David Dewitt, David Haglund, and John Kirton, eds., *Building a New Global Order: Emerging Trends in International Security* (Toronto: Oxford University Press, 1993) deals with security from every angle. Peter F. Drucker often addresses the broad implications of recent events, particularly for global economics. See, for example, *The Age of Discontinuity* (New York: Harper and Row, 1969); "The Changed World Economy," *Foreign Affairs*, 65, no. 2 (Spring 1986), pp. 768-91; *The New Realities* (New York: Harper and Row, 1989); *Post-Capitalist Society* (New York: Harper, 1993). John Kenneth Galbraith, *The New Industrial State* (Boston, MA: Houghton Mifflin, 1967) foresaw changes in priorities. Paul Kennedy, *Preparing for the Twenty-First Century* (Toronto: Harper Collins, 1993) should have been more insightful. Donella H. Meadows, et al., *The Limits to Growth* (New York: Universe Books, 1972) and *Beyond the Limits* (Post Mills, VT: Chelsea Green, 1992) used a computer model to begin and continue a useful debate with technological optimists (e.g., Herman Kahn and Julian Simon). John Naisbitt has been mainly a popularizer of developing trends in the US (*Megatrends; Megatrends 2000*), but has moved to broader horizons with *Global Paradox* (London: Nicolas Brealey, 1994). Robert B. Reich, *The Work of Nations* (New York: Vintage, 1992) highlights global economic interdependence. Alvin Toffler has been extremely influential with *Future Shock* (New York: Random House, 1970), *The Third Wave* (New York: William Morrow, 1980), and *Powershift*. The same is true of Walter Wriston, *The Twilight of Sovereignty*.
15. This is the essential thesis of *Powershift*.

16. Harlan Cleveland, "Education for the Information Society," in Howard F. Didsbury, Jr., ed., *Challenges and Opportunities from Now until 2001* (Bethesda, MD: World Future Society, 1986), p. 270.
17. See Nolan, *Global Engagement*; and William Pfaff, "A New Colonialism?" *Foreign Affairs*, 74, no.1 (January/February 1995), pp. 2-6.
18. See "Migrants and Refugees," *International Journal*, 48, no.2 (Spring 1993), (seven articles on the theme); Hal Kane, "Leaving Home," in Lester Brown, et al., *State of the World 1995* (New York: Norton, 1995), p. 132. See also Francis M. Deng, "Dealing with the Displaced: A Challenge to the International Community," *Global Governance*, 1, no.1 (Winter 1995).
19. The prospects for global pandemics is very well covered in Laurie Garrett, *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* (New York: Farrar, Straus and Giroux, 1994).
20. Sources dealing with ecological crises as security problems include: Simon Dalby, "Security, Intelligence, the National Interest and the Global Environment," *Intelligence and National Security*, 10, no. 4 (October 1995); Paul R. Erlich and Anne H. Erlich, *Healing the Planet: Strategies for Resolving the Environmental Crisis* (Reading, PA: Addison-Wesley, 1991); A.J. Fairclough, "Global Environmental and National Resource Problems Their Economic, Political and Security Implications," *Washington Quarterly*, 14, no. 1 (Winter 1991), pp. 81-98; Al Gore, *Earth in the Balance* (Boston, MA: Houghton-Mifflin, 1992); Ivan L. Head, *On a Hinge of History: The Mutual Vulnerability of South and North* (Toronto: University of Toronto Press, 1991); Thomas F. Homer-Dixon, "Environmental Change and Human Security," *Behind the Headlines*, 48 (Spring 1991); Andrew Hurrell and Benedict Kingsbury, eds., *The International Politics of the Environment* (Oxford, UK: Clarendon Press, 1992); Barbara Kavanagh and Steve Lonergan, eds., *Environmental Degradation, Population Displacement and Global Security* (Ottawa: Royal Society of Canada, 1992); Jim MacNeill, et al., *Beyond Interdependence: The Meshing of the World's Economy and the Earth's Ecology* (New York: Oxford University Press, 1991); Mathews, "Redefining Security,"; Boyce Richardson, *Time to Change: Canada's Place in a World in Crisis* (Toronto: Summerhill Press, 1990); Rosenau, *Turbulence in World Politics*; Ian Rowlands, "The Security Challenges of Global Environmental Change," *Washington Quarterly*, 14, no. 1 (Winter 1991), pp. 99-113; World Resources Institute, *World Resources 1994-5* (New York: Oxford University Press, 1994).
21. While there is no shortage of sources on terrorism, as an intelligence-related national security issue, a particularly good source is Paul Wilkinson, *Terrorism and the Liberal State*, 2nd ed. (London: Macmillan, 1986). For its potential scope in terms of actual or threatened violence, see Liddy, "Rules of the Game."
22. Among the many sources on current global economic, financial and technological problems, some directly relevant to their connection with intelligence, see James Adams,

The New Spies: Exploring the Frontiers of Espionage (London: Hutchinson, 1994), pp. 29-30, 121-39; Drucker, *The New Realities*; Gerard Piel, *Only One World* (New York: W.H. Freeman, 1992); Dennis Pirages, *Global Technopolitics: The International Politics of Technology and Resources* (Pacific Grove, CA: Brooks/Cole, 1989); Neil Postman, *Technopoly: The Surrender of Culture to Technology* (New York: Vintage, 1993); Samuel D. Porteous, "Economic Espionage: Issues Arising from Increased Government Involvement with the Private Sector," *Intelligence and National Security*, 9, no. 4 (October 1994), pp. 735-52 (the definitions are particularly useful, including one for economic security); World Resources Institute, *World Resources 1994-5*; "The World Trade Regime," theme issue of *International Journal*, 49, no. 3 (Summer 1994); *State of the World* regularly deals with specific international economic, financial and technological problems from a global point of view.

23. Both weapons development and narcotics are "naturals" as security and intelligence analysis issues, so they do not need to be highlighted in a discussion of new security problems. An unusual "Narco-Diplomacy" approach to the drugs problem is taken in a theme issue of *International Journal*, 49, no.1 (Winter 1993-4); Tariq Rauf, "Extending the Nuclear Non-Proliferation Treaty," *Behind the Headlines*, 52, no. 3 (Spring 1995), deals with the biggest current disarmament problem.

24. As pointed out by Rosenau in *Turbulence in World Politics*, the nature of post-industrial society tends toward strong identification with sub-state groups, since state borders rarely correspond with ethnic dividing lines or other forms of group identity. The breakup of three European multi-ethnic states (USSR, Yugoslavia and Czechoslovakia) and the prospect or pressures for many more states to follow suit (Russia, Serbia, Bosnia, Macedonia, Moldova, Georgia, Azerbaijan, Ukraine, Belgium, Romania, even Britain, France and Italy) in Europe alone is ominous for global stability, particularly since Europe (unlike Africa, for instance) made some efforts to respect and reflect ethnic identities. The recent literature relating to the origins and implications of this global time-bomb is so substantial, and the relevance to security and intelligence so obvious that it will not be summarized here.

25. There is no shortage of hard, provable physical and statistical evidence that global "security" in the broader sense is becoming worse. See, in particular, Brown and Kane, *Full House*. The UN Development Program's estimate of the total number of malnourished is 900 million people. This is unlikely to improve with 90 million more mouths to feed each year, and world production per person of grain having declined by 12 percent over the period 1984-93 and seafood by 9 percent over the period 1988-93 (Brown and Kane, *Full House*, p. 22). The ILO estimates over 1 billion unemployed globally by 2000 (ILO Director-General's personal estimate to the author). Even in much of the industrialized world, income disparities are increasing.

26. The overall economic rate of growth for Africa and Latin America was negative during the 1980s, and collectively negative for former communist countries since they converted to market economies. Absolute (not per capita) global loss of forests, arable land, topsoil and fresh water continues, while salinization and desertification expand.

27. See again Rosenau, *Turbulence in World Politics*, for a careful and dispassionate description of these trends and their general implications.
28. See *Canada and the World*, p. 27.
29. For an excellent description of that, see Herman, "Assessment Machinery."
30. A recent book by Mike Frost, as told to Michel Gratton, *Spyworld* (Toronto: Doubleday Canada, 1994), purports to describe some of its activities. On CSE's origins, see Peter St. John, "Canada's Accession to the Allied Intelligence Community 1940-45," *Conflict Quarterly*, 4, no. 4 (Fall 1984), pp. 5-21; and Wesley K. Wark, "Cryptographic Innocence: The Origins of Signals Intelligence in Canada in the Second World War," *Journal of Contemporary History*, 22 (1987), pp. 639-65.
31. Stuart Farson, "Accountable and Prepared? Reorganizing Canada's Intelligence Community for the 21st Century," *Canadian Foreign Policy*, 1, no. 3 (Fall 1993), pp. 43-66.
32. See *Canada and the World*, pp. 10, 24.
33. See Sir David Ramsbotham, "Analysis and Assessment for Peacekeeping Operations," *Intelligence and National Security*, 10, no. 4 (October 1995).
34. See *Canada and the World*, p. 27.
35. Ibid. p. 49.