THE CANADA-U.S. BORDER: ACHIEVING AN EFFICIENT INTER-ORGANIZATIONAL POLICY COORDINATION

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I. INTRODUCTION

The September 11, 2001, terrorist attacks in the United States have triggered many questions concerning the security of the Canada-U.S. border. As events unfolded on that day, the actual border was closed for only a little more than 24 hours, but it still created significant difficulties for thousands of travelers and businesses. The attacks exposed one of the paradoxes of recent globalization: accelerating movements of goods and people across national boundaries make it ever more difficult for governments to ferret out transnational terrorist threats. Hence, 9/11 events increased pressure on Canadian and American agencies regulating cross-border charged with managing the flow of goods and people more effectively. Many of these agencies now responsible for thwarting terrorist incursions have already experienced increased workloads due to cutbacks imposed on them over the past

decade. After 9/11 the media raised questions about insufficient resources, lack of communication and misinterpretations affecting cross-border regulatory agencies. Still, one question has seldom been asked: could a systemic business model help the agencies to implement anti-terrorist policies more effectively using resources and support systems already in place? To argue this case, first Part II presents a few facts on the Canada-U.S. border and then outlines those measures that the two different countries have put in place intuitively to help better coordinate their anti-terrorist strategies at the interagency and intergovernmental level. Then, Part III puts forward a systemic model which might help the different Canadian and American agencies responsible for cross-border management to create more efficient strategies for implementing improved border security policies that would assess the potential danger of terrorist attacks.

II. BORDER MANAGEMENT SYSTEM
A. The Importance of the Border

The U.S.-Canada border consists of 130 land crossings along the longest unfortified boundary in the world at 8,890 kilometers. Two hundred million crossings take place each year, and traffic is expected to grow at the rate of 10 percent annually over the next decade.

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(www.can-am.gc.ca) As previously mentioned, the attacks on 9/11 caused the United States to close its borders for about a day. Given the fact that more than U.S.$1.2 billion worth of goods cross the U.S-Canada border every day in the most important (in dollar value) trading relationship in the world, it is apparent that even the brief closing that took place on 9/11 must have exerted a profound impact.

B. How did Canada and the U.S. Respond?

As the Canadian and American governments geared up to fight terrorism they both realized that their actual governmental structures were somewhat inadequate to deal with these issues. As with many crises, it was soon realized that a better coordination between different government agencies was required. The 9/11 events showed clearly the difficulties in coordination between intelligence agencies such as the CIA and the FBI and also between INS, U.S. Customs, the Coast Guard and the Bureau of Consular Affairs, all of which shared border management (Moynihan and Roberts, 2002). For example, the U.S Customs Service has had to take into account more than 400 laws and 34 international treaties, agreements and conventions on behalf of many federal agencies.

In response to these problems, the U.S. government created a Department of Homeland Security (DHS) which brought together 22 federal departments with different directorates to better coordinate responses to terrorist threats against the continental U.S. DHS represented the greatest restructuring since the Cold War-spawned reorganization dating from 1947.(www.dhs.gov). Under DHS the U.S. Customs Service, the INS, the Federal Protective Service, the Transportation Security Administration, the Federal Law Enforcement Training Center, the Animal Plant Health Inspection Service, and the Office for Domestic Preparedness merged into a Border and Transportation Directorate which is now responsible for insuring border security. All of these agencies had belonged to other departments before the creation of DHS and probably had different organizational structures and cultures. The effective merging of these agencies into one Directorate will remain a difficult task to achieve if some bureaucratic aspects are not considered. Hence a systemic model developed from our prior research might be applied after some modification to help create a strategic plan for integrating these units without losing sight of the complexity of the issues that will be discussed In Part III.

On the Canadian side, the following government agencies correspond to their American counterparts: Citizenship and Immigration, Royal Canadian Mounted Police, Canada Customs and Revenue Agency, Canadian Food Inspection Agency and the Canadian Air Transport Security Authority. In contrast to the American response to 9/11, Canada has not integrated these agencies into a single cabinet-level ministry. The Canadian policy on crisis management is determined by what is called a "lead-agency" concept where, depending on the type of crisis that occurs, the department with the most expertise in the crisis area becomes the coordinating agency. For example, in the case of an environmental crisis, Environment Canada would be called upon to coordinate all other federal agencies after the onset of this event. During a crisis each agency must coordinate its actions on behalf of the others on a day-by-day basis. For example, the Canada Customs and Revenue Agency administers more than 180 legislative instruments.

As with their American counterparts, Canadian agencies have also experienced many cutbacks and are having "to do more with less" (Moynihan and Roberts, 2002). This has created a tremendous amount of pressure on public servants, and the situation is likely to worsen when, as already mentioned, U.S.-Canadian cross-border traffic increases by 10 percent annually. The reduction in resources and the importance of cross-border coordination between similar agencies of the two nations are characteristics shared by Canada and the U.S. but sometimes expressed differently.

C. Common Initiatives

From this perspective, the need for intergovernmental coordination also arises because "terrorists do not respect borders, but law enforcement authorities must (do so)." (Ciffulo, 2001) What remains difficult to evaluate is how to structure the coordination on an intergovernmental basis. This represents complex management issues of coordination not only in managerial terms (structure and culture) but also because of distinctive national laws and policies. As we have mentioned previously (Tanguay and Therrien, 2003),

> Even *before* September 11th, many initiatives were being discussed and put forward by both countries. Initiatives such as the Shared Border Accord, the Border Vision, the Cross-Border Crime Forum and more importantly the Canada-U.S. Partnership Forum (CUSP) (HtmlResAnchor

www.dfait-maeci.gc.ca) have addressed issues such as promoting trade, reducing costs in control, intelligence sharing and transnational crime. These initiatives were put forward after the first attacks on the World Trade Center in 1993, as concerns for security and terrorists' threats were heightened at that moment. The need to create a balance between the easy flow of goods and security factors became a very high burden on agencies.

In December 2001, as a direct result from the CUSP dialogues and the events of 9/11, Canada and the U.S. signed the Smart Border declaration, a 30-point plan to enhance security while facilitating the flow of people and goods (www.dfait-maeci.can-am.gc.ca). This declaration is seen by many as the operational application of moving towards a common security perimeter. The 30-point action plan coordinates many aspects such as risk management for trade and immigration policies. The plan should account for the paradoxes of globalization: more movements of goods and people to promote trade and commerce, and the difficulty of control of transnational threats such as terrorism. Trying to manage border dialectic has become increasingly difficult for policy-makers and the agencies mandated to implement these policies: "(…) Policy makers anxious about reigning in globalization's dark side look to the border to fend off contrabands, criminals, illegal migrants, and terrorists." (Flynn, 2002) In addition, authors such as Flynn (2002) and Haynal (2002) have discussed the lack of resources and the need for the development of decision support tools for these agencies.

Such a crisis situation creates a complex network of organizations which in turn need to develop special tools to coordinate their actions. To determine the scope of the network, a systemic model needs to be developed encompassing an understanding of the inter-agency flows. This type of modeling was developed by Therrien (1998, 2003) in a previous study on modeling complexity in forest fire management. The need to develop a systemic model is important in this situation because it can foster inter-operability between systems on an organizational and informational basis. Our proposed research strategy for creating the ideal systemic model for post-9/11 U.S.-Canada border management assumes that the problem stems from

complexity and therefore it is necessary to construct a model that maximizes understanding of the phenomenon without sacrificing any of its inherent characteristics.

III. A SYSTEMIC MODEL FOR EFFICIENT STRATEGIES
A. Purposes

Systemic analysis helps to translate the concept of complex system. From the definition of Le Moigne, Genelot (1992) mentions that it is necessary to focus attention on five fundamental points in order to take into account the complexity of systems:

1. to clarify the finality;
2. to take into account the actions and the evolutions of the environment;
3. to define the functions to be used to obtain the result;
4. to organize these functions between them and to regulate them;
5. to make the system evolve in order to keep it operating over time.

These criteria are part of the composition making up the complexity of the situation surrounding the effort to comprehend the phenomenon of border management. "In one way or another, we are forced to take into account this complexity, with wholes or systems, in all the spheres of knowledge." (Bertalanffy, 1968) It is not possible any more to use traditional, linear analytical thought because of the complexity of the system. The systems problematic stems largely from limitations inherent in the linear analytical procedures of scientific research.

Systems analysis fosters a better understanding of the dynamic complexity (Senge 1990) of border management and shows the need for developing a model of the system. Systems analysis of any complex management system allows one to discover that each agency operates from a different model, and links between different agencies are not necessarily possible because of inherent differences in points of view. Modeling the system helps to break down these barriers. Le Moigne (1995) proposes modeling of complex systems into a single a general system and calls this "systemography." Concepts of systemography and general system are used to build models of complex bureaucratic structures.

Le Moigne (1995) proposes a "canonical form" of the general system which must "allow the instrumentation, by systemography,

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of the modeling of the complex phenomenon," and to conceptualize the general system like "the representation of an identifiable active phenomenon perceived by its projects in an active environment, in which it functions and changes teleologically." Thus the general system includes the systemic elements like the context, the relations and the finality (teleology) of the system.

The general system is to some extent a matrix whose model maker will establish, by molding, a print *a priori*. It lays out a virgin systemic model without a legend. The "development" phase consists precisely of redirecting the legend– in other words, establishing the correspondence between the features of this systemic model and the features perceived or designed by the phenomenon to model. The model "with legend" will be necessarily systemic (it is molded on a system *a priori*). In other words, its incompletion will not constitute a regrettable imperfection but rather a condition necessary to the anticipation, by simulation, of possible emergence of new behaviors within this complex system. The model of the phenomenon is not only the chart of a territory. It becomes an active component of the system of a modeling, an autonomous phenomenon, in which, through cognitive simulation, it will be able to bring up to date forms of potential actions. The phenomenon was seen as being complex by the system of modeling. The models, which will be produced by it, will then be seen as complex.

A complex system is a model of a phenomenon perceived as complex that one builds by systemic modeling (LeMoigne, 1995). In order to model the phenomenon, it is necessary to develop logics of modeling which will be used to make the model understandable and will explain our base "logic". "The question is not: "will we transgress the rules of logic, but rather, which logical system should we choose? Therefore, if no existing logical system is appropriate for certain scientific problems, then it is necessary to invent a new logical system." (Pessis-Pasternak, 1987). As mentioned, a complex system must be modeled to make it understandable. Thus, by using the concept of systemography it is possible to understand a system of border management, to make accessible the whole of this complex system, and to allow for subsequent strategic system changes.

B. Determining Levels of Danger

In the model developed by Therrien (1998, 2003), an *instant* is represented by events which involve decisions that themselves have

effects. The *instant* represents the model that each agency possesses. The *instant* is not the same for each agency, however, because the experiences and the decisions it describes have effects which can affect the *instants* of the other agencies involved in the same event(s). For example, during the September 11ᵗʰ events, many comments were made on the discrepancy between the decision-making between the FBI and the CIA. They were important protagonists in the management of the event, sharing many *instants*, but they experienced many different effects because of a lack of coordination. To represent complexity related to an instant, it is possible to make a projection on the principal dimensions of complexity and thus to represent it in a hyperspace. The hyperspace of the complexity of an instant is composed of:

1. uncertainty on the data: the agency does not necessarily know all the data;
2. uncertainty on the models: an agency does not always have the models of behavior for the event, other agencies of the system, etc;
3. tangle of the networks: an agency is part of a system in which several decisions can influence its own decisions;
4. uncertainty related to the solutions considered: an agency does not always know the effects its decisions will have;
5. limitation of the means: there is a limited number of means which the agencies can use to manage their resources.

The hyperspace of complexity helps us draw a model which can calculate the differences on the five axes described above in a qualitative manner. The results of these differences can help to indicate strategic bridges between the agencies without causing major disruptions in the actual agencies. Conserving the complexity helps in determining strategies of change which respect the actual structures and cultures of the agencies.

On another level, the hyperspace of complexity can also be used as a tool to calculate a potential level of danger. An instant is in a hyperspace of complexity in a similar manner to the hyperspace of danger suggested by the cindynics (danger sciences). As Wybo (1998) proposes, one can at every instant allot an evaluation of the level of danger and his evolution with the succession of the instants according the five axes of cindynics. "To each situation, corresponds a space of danger with its five components, which allows estimating,

with the means of a metric specific to the type of danger, a total level of danger. Between two situations, we define a cycle of evolution formed of four phases: perception, analysis, decision and latency." (Wybo, 1998)

Figure 1
Cindynics Situation Evolution Model
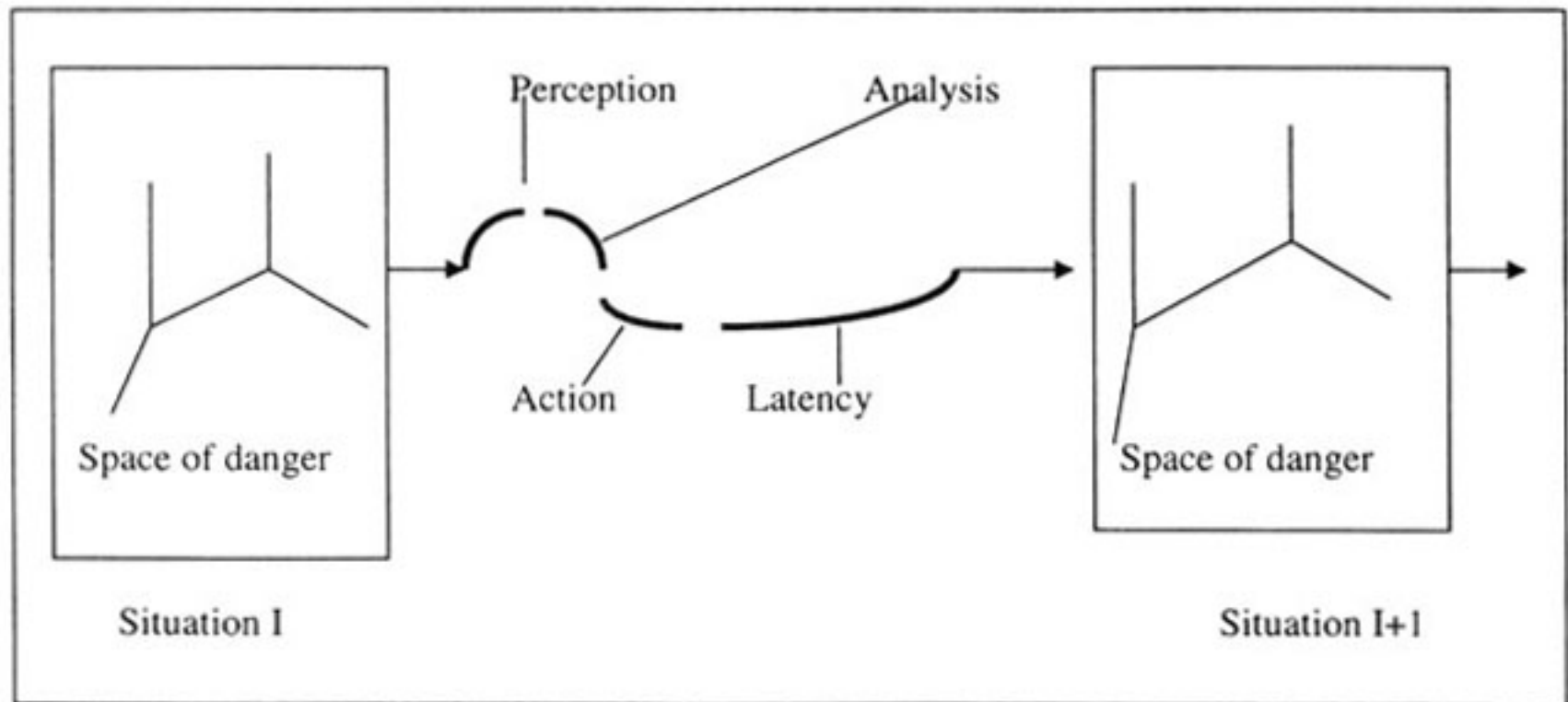
Source: *Introduction to Cindynics* (1998)

Each instant contains the behavior of each agency (Nicolet, 1998) in:
- the acquired experience;
- the models used;
- the finalities which guide it;
- the knowledge of the rules to be followed;
- and the values it upholds.

Therefore, by calculating qualitatively the differences that exist between the instants of each agency, we can determine a potential level of danger. For example, we could determine that the differences between the five axes of the instant are so large between the FBI and the CIA that this represents a potential for difficulties in coordination. The complex system of border management can be represented by a general context and contexts associated with each agency, understanding a system of instants. The result of this model will be to preserve information that was experienced by each agency in order to return accessible information while respecting the context of the decisions. The second result will consist of developing a metric of measuring potential danger. This measure will be obtained by

calculating the differences between the different instants of each agency.

IV. TOOLS REQUIRED FOR A SYSTEMIC BORDER MANAGEMENT RESEARCH PROJECT

For this part of the research we first will need to assess the coordination mechanisms related to the links between the U.S. and Canadian agencies involved in border control. We will also need to identify clearly the responsibilities of each of the agencies involved in border management and review appropriate documentation with an impact on border policy or management. A preliminary search reveals that more than 50 agencies will have to be surveyed through a questionnaire. From this data, follow-up interviews will be conducted in order to complete the data required to construct a systemic model on border management.

V. CONCLUSION

We have outlined the importance of the border between Canada and the United States and the need to establish tighter cross-border security measures without impeding the flow of goods and people. Recent policy changes by both Canadian and American public agencies responsible for the security of the border have triggered questions about the efficiency of the new security policies being implemented by both countries.

We propose a model for bureaucratic efficiency that takes into account the complexity of the multitude of agencies responsible for cross-border security. The purpose is to study the dysfunctions and the insufficiencies of border control agencies on terrorist threats by:
- identifying the links between the different management processes;
- studying the mechanisms;
- proposing decision-support tools or linkages that could improve coordination among the various strategic management processes.

The proposed model is represented by a hyperspace of complexity which can calculate qualitatively the potential for conflicts that exist between various agencies. This model can also help those responsible to identify strategies for implementing efficient border security policies.

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