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Canada: Constitutional Negotiation
and Game Theory”**

Louis M. Imbeau

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**In Search of a Compromise in Canada:
Constitutional Negotiation and Game Theory ¹**

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Recent history has been rich in constitutional events in Canada. 1976 saw the election of a secessionist government in Québec. A referendum on the constitutional status of the province was held in Québec in 1980, 60 % of voters supporting the federalist side. The following year, a constitutional agreement was reached between the federal government and the nine English-speaking provincial governments, in the absence of Québec negotiators. This agreement was formalized into the 1982 Constitutional Act which enshrined a charter of rights in the Constitution and which spelled out a new amending formula denying Québec the veto power that it had always claimed to have. Under the leadership of Prime Minister Mulroney, the new Conservative government elected in Ottawa in 1984 attempted, both with Québec secessionist Premier Lévesque and federalist Premier Bourassa, to find a compromise that would make Québec sign the new Canadian Constitution. These efforts culminated in the 1987 Meech Lake agreement which was to be finally rejected by two provinces in 1990.

Thus, after Québec's act of faith in federalism in the 1980 referendum and its being set aside in the 1981 negotiations, 1982 saw the triumph of Canadian nationalism (Resnick, 1990): the more centralized Canada of which Trudeau had been the champion was finally constitutionalized. After Lévesque-Mulroney's "*beau risque*" in 1984-85, and Bourassa-Mulroney's "*réintégration dans l'honneur*" in 1986-90, 1990 saw another triumph of Canadian nationalism: the attempt at weakening the central State called the Meech Lake Accord aborted; the Nation was saved. In the post-Meech period a new breach seems to have opened in the Canadian national construction. Confronting Canadian nationalism, Québec nationalism provoked such a reaction in Québec élites and people that the constitutional negotiation entered avenues thus far unexplored (Imbeau and Laforest, forthcoming).

For it is indeed a negotiation. Despite the pretensions of Québec premier Robert Bourassa and of his minister of intergovernmental affairs Gil Rémillard to the effect that Québec is not negotiating but that it is waiting for a proposal from Ottawa, there is a negotiation process going on. We are at least engaged in the initial round of a negotiation where actors eye each others and position themselves in preparation to the impending tournament. It is in this context that the meaning of the Allaire and the Bélanger-Campeau Commission reports should be understood: they constitute a negotiating position, not an ultimatum.

If we are talking about a negotiation, however, it is not a negotiation among eleven negotiators, despite the claims of many premiers in the "Rest of Canada". The conclusions of the Bélanger-Campeau Commission and the Allaire report revealed a new determination among an important part of Québec élites to see the Canada created by the Constitutional Act of 1982 adapted to the traditional demands of Québec. The stake of the present negotiation is the maintaining of Québec in the federal system. This has never been the case so far. The 1981 negotiation was aimed at "patriating" the Constitution, the last stage of the constitutional construction of Canadian nationalism. The 1987-90 negotiation followed the same logic. The previous effort was to be completed by adding Québec's signature to those already appearing on the 1981 document, thus consolidating the great Canada which Canadian nationalists dreamed of. In the present negotiation, we are concerned with the maintaining or not of a federal link between Québec and the "Rest of Canada". The Québec public, as well as its élites --even inside the Liberal party-- now consider sovereignty as the alternative to an agreement with the rest of Canada.

In such a conjuncture, the need for a better understanding of the situation is imperative if we want to keep minimum control over what is going to happen in order to face the facts and have the courage of taking whatever action is necessary. This paper is an effort in that direction. It has two objectives: first, to provide a general framework of analysis, using game theory concepts; second, and based upon the framework developed in the first part, to answer a crucial question: is a compromise still possible ? We shall first present the basic setting of the situation

(basic configuration and actors' preferences). Then we shall analyse the characteristics of various strategic configurations, finally to propose an answer to our initial question.

1.1 The Basic Setting

I suggest formalizing the Québec-Canada negotiation through game theory concepts. According to the classic model of Von Newmann and Morgenstern (1953), the basic configuration could be the following one. Two actors ("Québec" and "Canada") each have two strategies, to adopt a cooperative attitude (CO) or not to adopt such an attitude (NCO), the combination of which results in four possible outcomes (see Figure 1):

C: a Compromise (the Meech Lake agreement was one);

FQ: a solution Favouring "Québec" (where Québec gets most of what it wants while preserving the federal link. A solution *à la* Allaire which would decentralize Canada giving all provinces any advantage granted to Québec should be classified here);

FC: a solution Favouring "Canada" (the *status quo*);

AA: (**Aucun Accord**) no agreement (in previous negotiations, AA has been the equivalent of the *status quo*: if there was no agreement, then nothing was changed. This factor was important in the failure of the Gang of Eight's attempt in 1981 (Imbeau, 1990). In this negotiation, of course, AA legally is an equivalent to the *status quo* but it leads to a political impasse that the Allaire and the Bélanger-Campeau reports have defined as Québec sovereignty).

These results are uncertain. The distinction between C and FQ, for example, is not clear cut. For many Canadians from the "Rest of Canada", Meech Lake was not a compromise but a solution favouring Québec. Uncertainty is even higher when one considers AA. It is far from evident indeed that a failure to reach an agreement in the present negotiation will lead necessarily to Québec sovereignty. One could argue that the constitutional fatigue that it would have

engendered could prevent any sovereigntist project to materialize. In that case, no agreement would mean the *status quo*. Likewise, specific events related to internal politics or international relations could reverse the present agenda and push constitutional concerns toward its bottom. Here again AA could be the equivalent of the *status quo*. However, we shall assume here that a failure to reach an agreement in this negotiation (AA) corresponds to Québec sovereignty because the present situation seems to justify it: sovereignty still gets a strong support in Québec public opinion as well as in political and economic elites, even within the Liberal party. If this trend continues, the probability that an impasse will lead to Québec separation is very high.

Figure 1: Basic configuration of the 2x2 constitutional game

		"Québec"	
		CO	NCO
"Canada"	CO	C	FQ
	NCO	FC	AA

1.2 The Preferences

The strategies adopted by both players in such a setting depend on the preferences each one has with regard to the possible outcomes. Like Rapoport and Guyer (1966), we shall consider only strictly ordinal scales, i.e. we shall assume that each player orders the outcomes from the most preferred to the least preferred. Equalities or indifferences are not considered here². The combination of four outcomes gives 4! (or 24) strictly ordinal scales: 1- AA > FC > C > FQ; 2- AA > FC > FQ > C; 3- AA > C > FC > FQ; etc.

All these scales are not equally plausible. One can imagine that an actor prefers AA to any other outcome. This could be the case of "Canadians" who would like simply to punish

Québec, or of "Quebecers" who would prefer independence to any other solution. Where **AA** is the first choice, it is not likely that **C** is second. One would rather expect to see **FC** as the second choice for "Canadians" (it's all right to punish Québec, but if that does not work, I prefer the *status quo* **FC** to a compromise **C**), or **FQ** for "Quebecers" (if we cannot have independence, then I prefer a solution favouring Québec to a compromise). Thus, of the 24 preference scales, some are more likely than others to correspond to the preferences of the actors in this setting. Assuming transitivity between **FC**, **C**, and **FQ** -- which means that the compromise **C** is the lesser of two evils between an outcome favouring Canada and an outcome favouring Québec -- we suggest five criteria in order to reduce the number of preference scales to the more plausible ones. The first criterion refers to the discussion introduced in this paragraph: if **AA** is the first choice, **C** may not be the second choice³, or,

if [**AA** = 4] and [**C** = 3], reject the scale. (1)

We have a similar situation when **AA** is preferred to any other outcome and **FC** or **FQ** is second. Indeed it is not likely that "Canadians" who want to punish Québec prefer a solution favouring Québec to a compromise. Likewise, one would not expect that "Quebecers" who want independence prefer the *status quo* to a compromise. Hence,

if [(**AA** = 4 and **FC** = 3) or (**AA** = 4 and **FQ** = 3)] and [**C** = 1], reject the scale. (2)

FQ can be thought of as the first choice of Québec nationalists who prefer a solution favouring Québec, as well as the first choice of Canadian decentralists who would prefer a decentralizing solution *à la* Allaire. In both cases, and coherent with the transitivity assumption between **FC**, **C**, and **FQ**, **C** will be preferred to **FC**, hence,

if [**FQ** = 4] and [**FC** > **C**], reject the scale. (3)

Likewise, when **FC** is the first choice, **C** should be preferred to **FQ** since the former is closer to the vision linked with the *status quo* than the latter, hence,

if $[FC = 4]$ and $[FQ > C]$, reject the scale. (4)

Finally, we can consider that a compromise is the first choice of those who want the *status quo* to be changed, but not to the point of a decentralizing solution. It is not likely then that these persons would have the impasse AA as their second choice, hence,

if $[C = 4]$ and $[AA = 3]$, reject the scale. (5)

Applying these five criteria allowed us to keep twelve relevant scales that were classified on a continuum going from "hardcore Canadian nationalists", through "moderates" and "federalists", to "hardcore Québec nationalists". Thus, according to the position of AA in the preference scale, we have two types of scales: if $AA = 1$, i.e. if an impasse is the last choice, we have the federalists; otherwise, we have the nationalists. So a position putting the maintenance of the federal link over particular interests (FC or FQ) is considered as federalist. According to the relative position of FC and FQ, nationalists are Quebecer ($FQ > FC$) or Canadian ($FC > FQ$). According to the relative position of AA, nationalists are moderate ($AA = 2$) or hardcore ($AA \geq 3$). Finally, federalists are centralist if they prefer the *status quo* to a compromise ($FC > C$); otherwise, they are decentralist. Using these rules we get the typology of constitutional preferences given in Table 1.

One of the advantages of this typology is to allow the classification of each actor as compared to others. There is no systematic empirical study on this issue, but the available information could suggest a first intuitive classification. Premier Bourassa, for example, could be classified at [5.1] or [5.2] if we give credit to his insistence on the unacceptability of the *status quo* (FC). His endorsement of the Allaire report might be an indication that he prefers FQ to C (scale [5.2]). Québec minister of intergovernmental affairs, Gil Rémillard, could be classified in the same way (scale [5.2]). Many members of Québec Liberal party share a federalist position. Claude Ryan, for example, has a position that resembles [4.3]. His first choice, as seen in his famous "Livre beige" of 1980, is for a greater decentralization (FQ), and he seems to be opposed to any form of sovereignty. The position of English speaking members

of the Québec Liberal party resembles scales [4.1] and [4.2], or even scale [3.0], according to whether they prefer a compromise to the *status quo*. At the other extreme, the youth commission of the Québec Liberal party clearly supports sovereignty: this support could be interpreted as a negotiating position if the scale is [6.1] (they defend sovereignty in order to force the party to adopt a position favouring Québec), or it could be a manifestation of the real preference scale: [6.2]. In other words, it seems that the Québec Liberal party covers a wide range of preferences going from [3.0] to [6.2], with the leadership being located between [4.3] and [5.2].

Table 1: Typology of Constitutional Preferences

Label	Preference scales	Code
1- Hardcore Canadian Nationalists	AA > FC > C > FQ	[1.1]
	FC > AA > C > FQ	[1.2]
2- Moderate Canadian Nationalists	FC > C > AA > FQ	[2.1]
	C > FC > AA > FQ	[2.2]
3- Centralist Federalists	FC > C > FQ > AA	[3.0]
4- Decentralist Federalists	C > FC > FQ > AA	[4.1]
	C > FQ > FC > AA	[4.2]
	FQ > C > FC > AA	[4.3]
5- Moderate Québec Nationalists	C > FQ > AA > FC	[5.1]
	FQ > C > AA > FC	[5.2]
6- Hardcore Québec Nationalists	FQ > AA > C > FC	[6.1]
	AA > FQ > C > FC	[6.2]

N.B. This typology was established using the following criteria:

- 1- if AA >= 3, then label is "Hardcore Nationalists"
 - 2- if AA = 2, then label is "Moderate Nationalists"
 - 3- if criterion #1 or criterion #2 is true and if FC > FQ, then label is "Canadian Nationalists"
 - 4- if criterion #1 or criterion #2 is true and if FQ > FC, then label is "Québec Nationalists"
 - 5- if criteria #1 and #2 are false and if FC > C, then label is "Centralist Federalists"
 - 6- if criteria #1 and #2 are false and if C > FC, then label is "Decentralist Federalists".
-

In the Parti Québécois, internal coherence seems to be greater. The official party position, as defended by its leader Jacques Parizeau, corresponds to scale [6.2] (sovereignty is the primary goal). However, one perceives that, for many party members, the first choice could be a solution favouring Québec (FQ). To a certain degree, the concept of "sovereignty-association" put

forward by the party's founder René Lévesque could be considered both as **FQ** if one insists on the "association" dimension, and **AA** if one insists on the "sovereignty" dimension.

At the federal level, members of the Conservative party display positions that are more federalist. In general, the official position of the party seems to correspond to scales [3.0] to [4.3], prime minister Mulroney and his minister responsible for federal-provincial relations Joe Clark being around [3.0] and [4.1]. Non-official interventions of some federal ministers from Québec indicate that they may be closer to scales [5.1] and [5.2], whereas others among English-speaking members seem to be closer to scales [2.1] and [2.2]. Like the Québec Liberal party, Conservatives in Ottawa cover a wide range of preferences going from [2.1] to [5.2].

The position defended by for Liberal prime minister Pierre Trudeau in the Meech Lake debate suggests that his preference scale is [2.1]: he clearly prefers the *status quo* to any compromise but it is not clear whether his least preferred outcome is **AA** (scale 2.1] or **C** (scale [1.2]. While Liberal party leader Jean Chrétien seems to share most of his mentor's opinions, his preferences might be a little closer to the center. One could even argue that Chrétien prefers a solution favouring Québec to an impasse (scale [3.0]).

If we turn to provincial Premiers in the Rest of Canada, positions seem to vary from [1.2] or [2.1] for Newfoundland premier Wells (his opposition to the Meech Lake Accord is coherent with both scales), to [4.2] or [4.3] for Alberta premier Getty, if we consider that **FQ** represents an important decentralization in favour of all provinces.

We see that the characterization of actors' preferences is not easy. It is not even sure that any such characterization is at all possible if we consider that any assessment of someone's preferences is based on public speeches that are carefully crafted in order to correspond to the image the speaker wants to project of himself, or to provoke the effect the speaker is trying to produce. It could be argued that observed preferences are projected preferences rather than real preferences. Furthermore, it may be argued that preferences vary, for a person, according to the times, or even that other dimensions (such as electoral concerns) may be more important than

constitutional preferences. In any case, the analysis of actors' constitutional preferences is necessary because it determines the type of strategic setting in which the negotiation will take place.

Figure 2: Positioning of various actors on the preference continuum

Premiers		from the "Rest of Canada"										
Trudeau	Chrétien				Mulroney	Ryan	Bourassa			Parizeau		
1.1	1.2	2.1	2.2	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	

2. The Strategic Settings

2.1 Basic concepts

There are two actors, each with 24 possible preference scales. This gives a total of 24^2 (or 576) possible games or strategic settings⁴. If we assume, for example, that "Québec" has [5.2] as its preference scale and "Canada", [2.1], the strategic setting takes the form depicted in figure 3. Both actors have two strategies: CO (to adopt a cooperative attitude) and NCO (not to adopt such an attitude). According to the attitude adopted, the outcomes of the game are those given in figure 3. The natural solution⁵ of this game is AA (Rapoport and Guyer, 1966: 205; Rapoport, Guyer and Gordon, 1976: 17-18). One can start the game at FC (this is the situation created by the 1981 constitutional agreement). We see that if "Québec" changes strategy (i.e. if it goes from CO to NCO), it improves its payoff which goes from 1 to 2. It is not in the interest of "Canada" then to adopt a cooperative strategy since such a move would deteriorate its payoff

from 4 to 3, or from 2 to 1 if "Québec" has already changed its own strategy. Once at AA, neither player has an incentive unilaterally to change strategy: this is why AA is called a Nash equilibrium ⁶. If players anticipate all possible moves from a given outcome, two outcomes appear to be non-myopic equilibria ⁷: C and AA. Indeed, if we start at C, "Canada" can anticipate that if it changes strategy in order to get FC (its most preferred outcome), "Québec" will also be tempted to change strategy. Then the choice for "Canada" will be to stay at AA or to move to FQ. In both cases, the payoff is worst that the one linked to the starting point. Therefore, it is in the interest of "Canada" to stay at C once it gets there. Mutatis mutandis, the same reasoning applies to "Québec". Thus, both C and AA are non-myopic equilibria.

Figure 3: Strategic configuration where "Québec"'s preference scale is [5.2] and "Canada"'s is [2.1] (prisoner's dilemma).

(28)

		"Québec"	
		CO	NCO
"C a n a d a"	CO	C** 3,3	FQ 1,4
	NCO	FC 4,1	AA** 2,2

^ Refers to a natural solution.

* Refers to a Nash equilibrium.

** Refers to a nonmyopic equilibrium.

Numbers in parentheses [v.g. (28)] refer to the sequential number given to each game in Table 2.

Numbers below an outcome refer to actors' preferences (left: "Canada", right: "Québec"):

	4	3	2	1	
[2.1]:	FC	> C	> AA	> FQ	("Canada")
[5.2]:	FQ	> C	> AA	> FC	("Québec").

Table 2: Characteristics of 80 selected games

OBS	PREFCAN	PREFQUE	NOJEURG	PERM	CATRG	SOLNAT	NASH	NMYOP	CANFORCE	QUEFORCE
1	1.1	2.1	13	2	4	FC	FC	.		FC1
2	1.1	2.2	7	2	2	FC	FC	FC		.
3	1.1	3.0	15	2	4	FC	FC	.		FC1
4	1.1	4.1	8	6	2	FC	FC	FC		.
5	1.1	4.2	10	6	2	FC	FC	FC		.
6	1.1	4.3	45	2	6	FC	FC	.		.
7	1.1	5.1	36	8	4	AA	AA	AA	AA1	.
8	1.1	5.2	18	8	4	AA	AA	.	AA1	.
9	1.1	6.1	16	8	4	AA	AA	.	AA1	.
10	1.1	6.2	5	4	1	AA	.	.	.	.
11	1.2	2.1	3	2	1	FC	.	.	.	.
12	1.2	2.2	13	6	4	FC	FC	.	FC1	.
13	1.2	3.0	4	6	1	FC	.	.	.	.
14	1.2	4.1	14	6	4	FC	FC	.	FC1	.
15	1.2	4.2	17	6	4	FC	FC	.	FC1	.
16	1.2	4.3	35	6	4	FC	FC	FC	FC1	.
17	1.2	5.1	46	4	6	AA	AA	.	.	.
18	1.2	5.2	11	8	2	AA	AA	AA	.	.
19	1.2	6.1	9	4	2	AA	AA	AA	.	.
20	1.2	6.2	16	4	4	AA	AA	.	.	AA1
21	2.1	2.1	1	6	1	FC	.	.	.	.
22	2.1	2.2	20	6	5	FC	FC	.	FC1	C2
23	2.1	3.0	2	6	1	FC	.	.	.	.
24	2.1	4.1	19	6	5	FC	FC	.	FC1	C2
25	2.1	4.2	21	6	5	FC	FC	.	FC1	C2
26	2.1	4.3	39	6	5	FC	FC	FC	FC1	C2
27	2.1	5.1	48	4	6	AA	AA	.	.	C2
28	2.1	5.2	12	4	3	AA	AA	AA/C	C2	C2
29	2.1	6.1	11	4	2	AA	AA	AA	.	.
30	2.1	6.2	18	4	4	AA	AA	.	.	AA1
31	2.2	2.1	50	5	7	C	C	.	C1	FC2
32	2.2	2.2	23	5	1	C	.	.	.	.
33	2.2	3.0	49	5	7	C	C	.	C1	FC2
34	2.2	4.1	22	5	1	C	.	.	.	.
35	2.2	4.2	26	5	1	C	.	.	.	.
36	2.2	4.3	72	2	10	FC	C	.	C2	C1
37	2.2	5.1	61	1	1	C	.	.	.	.
38	2.2	5.2	48	8	6	AA	AA	.	C2	.
39	2.2	6.1	46	8	6	AA	AA	.	.	.
40	2.2	6.2	36	4	4	AA	AA	AA	.	AA1
41	3.0	2.1	22	6	1	FC	.	.	.	.
42	3.0	2.2	49	6	7	FC	FC	.	FC1	C2
43	3.0	3.0	23	6	1	FC	.	.	.	.
44	3.0	4.1	50	6	7	FC	FC	.	FC1	C2
45	3.0	4.2	55	6	7	FC	FC	.	FC1	C2
46	3.0	4.3	66	1	9	C	FC/FQ	C	FC1	FQ1
47	3.0	5.1	72	7	10	FQ	C	.	C1	C2
48	3.0	5.2	39	3	5	FQ	FQ	FQ	C2	FQ1
49	3.0	6.1	35	3	4	FQ	FQ	FQ	.	FQ1
50	3.0	6.2	45	7	6	FQ	FQ	.	.	.
51	4.1	2.1	19	5	5	C	C	.	C1	FC2
52	4.1	2.2	2	5	1	C	.	.	.	.
53	4.1	3.0	20	5	5	C	C	.	C1	FC2
54	4.1	4.1	1	5	1	C	.	.	.	.
55	4.1	4.2	6	1	1	C	.	.	.	.
56	4.1	4.3	55	3	7	FQ	FQ	.	C2	FQ1
57	4.1	5.1	26	1	1	C	.	.	.	.
58	4.1	5.2	21	3	5	FQ	FQ	.	C2	FQ1
59	4.1	6.1	17	3	4	FQ	FQ	.	.	FQ1
60	4.1	6.2	10	3	2	FQ	FQ	FQ	.	.
61	4.2	2.1	14	5	4	C	C	.	C1	.
62	4.2	2.2	4	5	1	C	.	.	.	.
63	4.2	3.0	13	5	4	C	C	.	C1	.
64	4.2	4.1	3	1	1	C	.	.	.	.
65	4.2	4.2	1	1	1	C	.	.	.	.
66	4.2	4.3	50	3	7	FQ	FQ	.	C2	FQ1
67	4.2	5.1	22	1	1	C	.	.	.	.
68	4.2	5.2	19	3	5	FQ	FQ	.	C2	FQ1
69	4.2	6.1	14	3	4	FQ	FQ	.	.	FQ1
70	4.2	6.2	8	3	2	FQ	FQ	FQ	.	.

Table 2 (continued)

71	4.3	2.1	8	5	2	C	C	C	.	.
72	4.3	2.2	15	1	4	C	C	.	.	C1
73	4.3	3.0	7	1	2	C	C	C	.	.
74	4.3	4.1	13	1	4	C	C	.	.	C1
75	4.3	4.2	20	1	5	C	C	.	FQ2	C1
76	4.3	4.3	23	3	1	FQ	.	.	.	.
77	4.3	5.1	49	1	7	C	C	.	FQ1	C1
78	4.3	5.2	2	3	1	FQ	.	.	.	.
79	4.3	6.1	4	3	1	FQ	.	.	.	.
80	4.3	6.2	15	7	4	FQ	FQ	.	FQ1	.

OBS: sequential number identifying each game in this analysis.

PREFCAN: Canada preference scale.

PREFQUE: Québec preference scale.

NOJEURG: game number in Rapoport et Guyer's taxonomy.

PERM: equivalence to basic games in Rapoport et Guyer's taxonomy.

Key:

1: Rapoport et Guyer basic game

2: Permutation of rows

3: Permutation of columns

4: Permutation of rows and columns

5: Permutation of players

6: Permutation of players then of rows

7: Permutation of players then of columns

8: Permutation of players then of rows and columns

CATRG: game category according to Rapoport et Guyer (1966: 207).

SOLNAT: natural solution (Rapoport et Guyer, 1966: 205).

NASH: Nash equilibrium (Brams, 1990: 149-153).

NMYOP: Non-myopic equilibrium (*ibid.*).

CANFORCE: outcome vulnerable to a threat from Canada (*ibid.*).

QUEFORCE: outcome vulnerable to a threat from Québec (*ibid.*).

2.2 The 80 Selected Games

One is not likely to see, at the negotiation table, representatives from Québec who would prefer the *status quo* and separation to a compromise or to a solution favouring "Québec". It is not likely either to find representatives from the "Rest of Canada" for whom the *status quo* would be the last choice. If, therefore, we reject the preference scales least plausible for "Québec" (i.e. the two scales labeled "Hardcore Canadian Nationalist") and for "Canada" (i.e. the four scales labeled "Québec Nationalist"), we can build 80 games (eight scales for "Canada" and ten scales

for "Québec"). From these 80 games, one can attempt to analyse the dynamics of the coming constitutional negotiation in Canada (all the results of this analysis are given in Table 2).

2.2.1 Non-Conflictual Games

Of the 80 games selected, 22 are non-conflictual games. These games are Rapoport and Guyer's category 1 games (Rapoport and Guyer, 1966: 207). In these games, "Québec" and "Canada" share the same first choice. Therefore it is expected that both players will choose the strategy that leads to that first choice: AA in one game (#10)⁸, FQ in three games (#76, #78, #79), FC in six games (#11, #13, #21, #23, #41, #43), and C in twelve games (#32, #34, #35, #37, #52, #54, #55, #57, #62, #64, #65, #67).

From a theoretical standpoint, these games are less interesting because, under complete information, the result of the game is pre-determined. From an empirical standpoint, these are less representative of the situation observed in the post-Meech period, though one cannot completely rule out the possibility of a greater community of thought between players than that which appears in the media. As Brams (1990) suggested, we will concentrate the analysis on the 58 conflictual games, i.e. those in which players do not share the same first choice.

2.2.2 Conflictual Games

Conflictual games can be classified according to their natural solution. The impasse AA is the natural solution in 14 games. These are the games where both players have nationalist positions: [1.1] to [2.2] for "Canada", and [5.1] to [6.2] for "Québec". This means that if both negotiators are nationalist, even moderate (i.e. if they prefer an impasse to a solution favouring the other player), there is not much chance of reaching an agreement. One of these games is the famous prisoner's dilemma game (game #28) introduced above, to which we will return shortly.

The *status quo* FC is the natural solution of 18 conflictual games where the preferences of "Canada" go from [1.1] to [3.0] and those of "Québec" from [2.1] to [4.3]. In other words, the *status quo* is a natural solution when "Québec" is federalist. No nationalist position on the part of "Québec" leads to the *status quo* as a natural solution.

The decentralizing outcome FQ is a natural solution when "Canada" is federalist (scales [3.0] to [4.3]) and "Québec" is decentralist federalist or nationalist (scales [4.3] to [6.2]), except for game #46 (chicken) and game #77 which have compromise as a natural solution.

3. Is a Compromise Possible ?

3.1 Compromise as a Natural Solution

There are 13 games whose natural solution is C. They are depicted in figure 4. To adopt a cooperative attitude (CO) is the dominant strategy of both players in six of these games (#61, #63, #71, #72, #73, #74): "Canada" and "Québec" choose that strategy because it brings them a better payoff whatever the other chooses to do. "Québec" is the only one with a "CO" dominant strategy in four games (#31, #33, #51, and #53). In those cases, "Canada" is expected to adopt the strategy that maximizes its payoff assuming that "Québec" will choose its dominant strategy. We have the reverse situation in games #75 and #77 where "Canada" is the only one with CO as the dominant strategy. There is only one game in which compromise is the natural solution and where neither player has a dominant strategy: game #46 (Chicken).

There is no compromise as a natural solution if "Québec" is nationalist (scales [5.1] to [6.2]), except when "Canada" is decentralist (scale [4.3]). Neither is there a compromise as a natural solution when "Canada" prefers the *status quo* to a compromise, except in a chicken game (game #46) which is also the only one to produce a compromise as a Nash equilibrium.

Figure 4: Conflictual Configurations with Compromise as the Natural Solution

(31)	2.1	(53)	3.0	(71)	2.1	(74)	4.1
2.2	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 4,3 & 1,1 \\ \hline FC & AA \\ \hline 3,4 & 2,2 \\ \hline \end{array}$	4.1	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 4,3 & 2,2 \\ \hline FC & AA \\ \hline 3,4 & 1,1 \\ \hline \end{array}$	4.3	$\begin{array}{|c|c|} \hline C^{**} & FQ \\ \hline 3,3 & 4,1 \\ \hline FC & AA \\ \hline 2,4 & 1,2 \\ \hline \end{array}$	4.3	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 3,4 & 4,2 \\ \hline FC & AA \\ \hline 2,3 & 1,1 \\ \hline \end{array}$
	50/5		20/5		8/5		13/1
(33)	3.0	(61)	2.1	(72)	2.2	(75)	4.2
2.2	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 4,3 & 1,2 \\ \hline FC & AA \\ \hline 3,4 & 2,1 \\ \hline \end{array}$	4.2	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 4,3 & 3,1 \\ \hline FC & AA \\ \hline 2,4 & 1,2 \\ \hline \end{array}$	4.3	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 3,4 & 4,1 \\ \hline FC & AA \\ \hline 2,3 & 1,2 \\ \hline \end{array}$	4.3	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 3,4 & 4,3 \\ \hline FC & AA \\ \hline 2,2 & 1,1 \\ \hline \end{array}$
	49/5		14/5		15/1		20/1
(46)	4.3	(63)	3.0	(73)	3.0	(77)	5.1
3.0	$\begin{array}{|c|c|} \hline C^{**} & FQ^* \\ \hline 3,3 & 2,4 \\ \hline FC^* & AA \\ \hline 4,2 & 1,1 \\ \hline \end{array}$	4.2	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 4,3 & 3,2 \\ \hline FC & AA \\ \hline 2,4 & 1,1 \\ \hline \end{array}$	4.3	$\begin{array}{|c|c|} \hline C^{**} & FQ \\ \hline 3,3 & 4,2 \\ \hline FC & AA \\ \hline 2,4 & 1,1 \\ \hline \end{array}$	4.3	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 3,4 & 4,3 \\ \hline FC & AA \\ \hline 2,1 & 1,2 \\ \hline \end{array}$
	66/1 Poule mouillée		13/5		7/1		8/5
(51)	2.1						
4.1	$\begin{array}{|c|c|} \hline C^* & FQ \\ \hline 4,3 & 2,1 \\ \hline FC & AA \\ \hline 3,4 & 1,2 \\ \hline \end{array}$						
	19/5						

* Nash equilibrium

** Non-myopic equilibrium

Numbers between parentheses [v.g. "(31)"] refer to sequential numbers given to each game in Table 2.

Numbers under a matrix [v.g. "50/5"] refer to Rapoport et Guyer's taxonomy, the first one giving the game number, and the second one the permutation according to the following order:

- 1: Rapoport et Guyer basic game
- 2: Permutation of rows
- 3: Permutation of columns
- 4: Permutation of rows and columns
- 5: Permutation of players
- 6: Permutation of players then of rows
- 7: Permutation of players then of columns
- 8: Permutation of players then of rows and columns

Numbers with a decimal (v.g. "2.1") refer to preference scales

"Québec" is the column-player, "Canada" is the row-player.

The specific characteristics of game #46 in this context, as well as its fame in game theory literature suggest that we give it a special treatment. This is the game where both actors are federalist, one centralist (scale [3.0]), the other decentralist with **FQ** as the first choice (scale [4.3]). Both players consider **AA** as the least preferred outcome, but they disagree on the most desirable outcome: **FC** for "Canada" and **FQ** for "Québec". This game has two Nash equilibria: **FQ** and **FC**. Once there, neither player has an advantage unilaterally to change strategy since the end result would be **AA**, the worst outcome for both. Yet, if both players simultaneously attempt to get their most preferred outcome, they collide at **AA**. In other words, in order to end up at one of the two Nash equilibria, one of the players has to give up.

On the other hand, if we consider the possibility of sequential choices and Zagare's rule IV (i.e. players alternate in choosing their strategy until one of them decides to stay where he is or until the game returns to its starting point) (Zagare, 1984: 1-5), the non-myopic equilibrium is the compromise **C**. Indeed, if, like Brams, we start at **C**, "Canada" can anticipate the following moves if it chooses first: 1- "Canada" changes strategy for **NCO**: the outcome is **FC**; 2- "Québec", assuming that "Canada" will not tolerate to stay at **AA**, its last choice, changes also for **NCO**: the outcome is **AA**; 3- "Canada", changes again for **CO** in order to avoid its worst outcome: the result is **FQ**; 4- "Québec" decides to stay at **FQ** since this is its first choice. The final outcome is **FQ**. Thus, anticipating all these moves, "Canada" will decide not to move from **C** in order to avoid a lower payoff: in that case, **C** is called a non-myopic equilibrium. The same line of reasoning applies to "Québec", *mutatis mutandis*.

One could argue that the real starting point is not **C** but **FC**, since **FC** corresponds to the situation created by the 1981 negotiation. This is what we call the **legalistic scenario**. The analysis shows that, with **FC** as the starting point, **C** is a non-myopic equilibrium if "Canada" moves first, but the non-myopic equilibrium becomes **FQ** if "Québec" moves first. Therefore, it is in the interest of both "Canada" and "Québec" to adopt an **NCO** strategy in that case. Another scenario is also possible, the **political scenario**, where the starting point is not **C** but **AA**. This is the analysis that many members of Québec political, economic and intellectual élites actually do make of the present situation, based on the illegitimate character of the Constitution

Act of 1982 (Laforest, 1990) and the impasse of the Meech Lake negotiation. Indeed, if we apply our basic game (Figure 1) to the Meech Lake negotiation, we see that the final outcome was AA. Once there, both players have an incentive to move from that position in order to avoid their worst outcome. However, knowing that the last one to move wins (if "Québec" moves first, the non-myopic equilibrium is FC, and if "Canada" moves first, the non-myopic equilibrium is FQ), both players have an incentive to let the other move first, with a collision as the classic consequence. We will see later that the use of threat can help avoid the collision.

Compromise is also an equilibrium outcome of this chicken game if we adopt the standpoint of metagame theory (Howard, 1971). This theory differs from the analysis based on non-myopic equilibria in that it is based on the anticipation of the other player's strategies and meta-strategies (i.e. the strategies adopted in response to the other player's strategies) rather than on the anticipation of its moves. In our context, the first player has four meta-strategies: 1- always CO, no matter what the other player does; 2- always NCO, no matter what the other player does; 3- CO if the other player chooses CO and NCO if the other player chooses NCO (Tit-for-tat); 4- CO if the other player chooses NCO and NCO if he chooses CO (Tat-for-tit). The second player has sixteen meta-strategies based on the first player's four meta-strategies⁹. The meta-strategic analysis shows that the compromise C is stable if both players adopt a Tit-for-tat strategy: I will cooperate if you do, I won't if you don't. In his analysis, Howard drew three conclusions that we can adapt to our context: 1- for the compromise to be stable, both players must be willing to risk the impasse; 2- if only one player is willing to risk the impasse, that player wins (i.e. if only "Canada" is willing to risk AA, FC is a stable outcome, and if "Québec" is the only one to risk AA, the stable outcome is FQ); 3- if neither player is willing to risk the impasse, no stable outcome is possible.

3.2 Compromise as a Result of Threat

The analysis based on natural solutions and on Nash equilibria refers to games where each player has a single strategy choice, whereas the analysis based on non-myopic equilibria refers

to multiple-move games. Another type of situation is one where multiple games are being played. Such a situation is more representative of the constitutional debate in Canada. Indeed, one could argue that several games have already taken place: the Victoria Charter game in 1971 (outcome: AA), the Patriation game in 1981 (outcome: FC), the Meech-Lake-1 game in 1987 (outcome: C), and the Meech-Lake-2 game in 1990 (outcome: AA). In all these games, the strategies of the players could be linked to the preceding and the following ones. Whether the strategies of the players were actually linked from one game to another is an empirical issue that, to my knowledge, has received no systematic treatment yet. Going from the assumption of single games to multiple sequential games allows us to take into account the use of threat which becomes credible because it can be implemented in a subsequent game.

For example, in the Meech-Lake-2 game, Premier Bourassa threatened that if the accord was not ratified, Québec demands would be higher in the following negotiation. If we apply this reasoning to our basic game, Bourassa's message was: any reduction to the 1987 agreement (the compromise C) would be considered as an equivalent to FC (Québec's five conditions were said to be minimal). The threat was: if you leave your CO strategy (i.e. if you try to get FC), I will leave my CO strategy and stay at NCO. "Canada" left its CO strategy (the 1987 compromise was rejected in 1990), as did "Québec". The outcome was AA. The Allaire report and the Bélanger-Campeau commission report (or the support given to those reports by Premier Bourassa) could be interpreted as a follow-up in the implementation of this threat since they imply two possible outcomes related to "Québec"'s NCO strategy: FQ (decentralization) or AA (sovereignty).

Brams (1990: chap. 5) distinguishes two types of credible threat ¹⁰. The first type corresponds to a threat that does not imply a punitive action on the part of the threatener. This type of threat corresponds to Schelling's concept of "compellent threat". A player using this kind of threat chooses a strategy and "threatens" not to move from this strategy no matter what the other does. The second type of threat implies a punitive action on the part of the threatener if the threatenee does not comply. Typically, the player "threatens" to change strategy and to stick to the new one if the other player ignores his threat. "Québec"'s threat presented in the previous paragraph is a type-2 threat. It corresponds to Schelling's concept of "deterrent threat".

Figure 5: Conflictual Games in which Québec Can Force Compromise 'C' Through the Use of a Credible Threat

(22)	2.2 M2	(27)	5.1 M2	(44)	4.1 M2	(74)	4.1 M1																																
2.1	<table border="1"> <tr><td>C</td><td>FQ</td></tr> <tr><td>3,4</td><td>1,1</td></tr> <tr><td>FC**</td><td>AA</td></tr> <tr><td>4,3</td><td>2,2</td></tr> </table>	C	FQ	3,4	1,1	FC**	AA	4,3	2,2	2.1	<table border="1"> <tr><td>C</td><td>FQ</td></tr> <tr><td>3,4</td><td>1,3</td></tr> <tr><td>FC</td><td>AA**</td></tr> <tr><td>4,1</td><td>2,2</td></tr> </table>	C	FQ	3,4	1,3	FC	AA**	4,1	2,2	3.0	<table border="1"> <tr><td>C</td><td>FQ</td></tr> <tr><td>3,4</td><td>2,2</td></tr> <tr><td>FC**</td><td>AA</td></tr> <tr><td>4,3</td><td>1,1</td></tr> </table>	C	FQ	3,4	2,2	FC**	AA	4,3	1,1	4.3	<table border="1"> <tr><td>C**</td><td>FQ</td></tr> <tr><td>3,4</td><td>4,2</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>2,3</td><td>1,1</td></tr> </table>	C**	FQ	3,4	4,2	FC	AA	2,3	1,1
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(24)	4.1 M2	(28)	5.2 M2	(45)	4.2 M2	(75)	4.2 M1																																
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3,4	4,1																																						
FC	AA																																						
2,3	1,2																																						
	39/6		49/6		15/1																																		

^ Natural Solution

• Nash equilibrium

** Non-myopic equilibrium

M1 Indicates that Québec has compelling threat capacity (Brams, 1990)

M2 Indicates that Québec has a deterrent threat capacity (Brams, 1990)

Numbers between parentheses [v.g. "(31)"] refer to sequential numbers given to each game in Table 2.

Numbers under a matrix [v.g. "50/5"] refer to Rapoport et Guyer's taxonomy, the first one giving the game number, and the second one the permutation according to the following order:

- 1: Rapoport et Guyer basic game
- 2: Permutation of rows
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- 5: Permutation of players
- 6: Permutation of players then of rows
- 7: Permutation of players then of columns
- 8: Permutation of players then of rows and columns

Numbers with a decimal (v.g. "2.1") refer to preference scales

"Québec" is the column-player, "Canada" is the row-player.

3.2.1 Games in which "Québec" Has a Credible Threat Capacity to Force a Compromise

There are 15 conflictual games in which "Québec" has a credible threat capacity to force a compromise C. They are displayed in Figure 5. In ten of these games, "Québec" has a type 2 threat capacity (deterrent threat): if you don't cooperate, I won't. In other words, "Québec" can force a compromise C and thus avoid the natural solution of those games by adopting a CO strategy and threatening to change to NCO if "Canada" does not respond properly. This is the way one could interpret the behaviour of the Québec Liberal government in the spring of 1991. The Allaire report and the Bélanger-Campeau report may make a deterrent threat credible by suggesting that the adoption of a NCO strategy is plausible: the threat is not a bluff. On the other hand, the prudent interpretation of these reports given by Premier Bourassa, and his continued contacts with his federal and provincial colleagues, may mean that he is at CO.

There are also five games where "Québec" has a capacity of credible type 1 threat: games #36 and #72 to #77. Here "Québec" can force a compromise by adopting strategy CO and by threatening to stick to it, no matter what "Canada" does. In game #36, we should talk about an assurance by "Québec" not to try to obtain FQ (his first choice) rather than a threat. In that case, "Canada" would choose CO to get its first choice, thus making the outcome change from the natural solution FC to C. We will later see that in this game, "Canada" also has a capacity of credible threat that leads to the compromise. In the four other cases of compelling threat on the part of "Québec", the use of threat is not useful since "Canada" should rationally choose CO anyway because CO is its dominant strategy. The compromise reached through the use of threat on the part of "Québec" is a Nash equilibrium in seven cases and a non-myopic equilibrium in game #28 (Prisoner's dilemma) which, incidentally, has a second non-myopic equilibrium: AA.

3.2.2 Games in which "Canada" Has a Credible Threat Capacity to Force a Compromise

There are also 15 games in which "Canada" has a credible threat capacity to force a compromise, using a compelling threat in seven games, and a deterrent threat in eight. They are

Figure 6: Conflictual Games in which Canada Can Force Compromise 'C' Through the Use of a Credible Threat

<p>(28) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>3,3</td><td>1,4</td></tr> <tr><td>FC</td><td>AA^{**}</td></tr> <tr><td>4,1</td><td>2,2</td></tr> </table> <p style="text-align: center;">12/4 Dilemme du prisonnier</p>	C ^{**}	FQ	3,3	1,4	FC	AA ^{**}	4,1	2,2	<p>(38) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C</td><td>FQ</td></tr> <tr><td>4,3</td><td>1,4</td></tr> <tr><td>FC</td><td>AA^{**}</td></tr> <tr><td>3,1</td><td>2,2</td></tr> </table> <p style="text-align: center;">48/8</p>	C	FQ	4,3	1,4	FC	AA ^{**}	3,1	2,2	<p>(53) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>4,3</td><td>2,2</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>3,4</td><td>1,1</td></tr> </table> <p style="text-align: center;">20/5</p>	C ^{**}	FQ	4,3	2,2	FC	AA	3,4	1,1	<p>(63) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>4,3</td><td>3,2</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>2,4</td><td>1,1</td></tr> </table> <p style="text-align: center;">13/5</p>	C ^{**}	FQ	4,3	3,2	FC	AA	2,4	1,1
C ^{**}	FQ																																		
3,3	1,4																																		
FC	AA ^{**}																																		
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<p>(31) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>4,3</td><td>1,1</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>3,4</td><td>2,2</td></tr> </table> <p style="text-align: center;">50/5</p>	C ^{**}	FQ	4,3	1,1	FC	AA	3,4	2,2	<p>(47) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C[*]</td><td>FQ[*]</td></tr> <tr><td>3,4</td><td>2,3</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>4,1</td><td>1,2</td></tr> </table> <p style="text-align: center;">72/7</p>	C [*]	FQ [*]	3,4	2,3	FC	AA	4,1	1,2	<p>(56) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C</td><td>FQ^{**}</td></tr> <tr><td>4,3</td><td>2,4</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>3,2</td><td>1,1</td></tr> </table> <p style="text-align: center;">55/3</p>	C	FQ ^{**}	4,3	2,4	FC	AA	3,2	1,1	<p>(66) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C</td><td>FQ^{**}</td></tr> <tr><td>4,3</td><td>3,4</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>2,2</td><td>1,1</td></tr> </table> <p style="text-align: center;">50/3</p>	C	FQ ^{**}	4,3	3,4	FC	AA	2,2	1,1
C ^{**}	FQ																																		
4,3	1,1																																		
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C [*]	FQ [*]																																		
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<p>(33) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>4,3</td><td>1,2</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>3,4</td><td>2,1</td></tr> </table> <p style="text-align: center;">49/5</p>	C ^{**}	FQ	4,3	1,2	FC	AA	3,4	2,1	<p>(48) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C</td><td>FQ^{**}</td></tr> <tr><td>3,3</td><td>2,4</td></tr> <tr><td>FC[*]</td><td>AA</td></tr> <tr><td>4,1</td><td>1,2</td></tr> </table> <p style="text-align: center;">39/3</p>	C	FQ ^{**}	3,3	2,4	FC [*]	AA	4,1	1,2	<p>(58) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C</td><td>FQ^{**}</td></tr> <tr><td>4,3</td><td>2,4</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>3,1</td><td>1,2</td></tr> </table> <p style="text-align: center;">21/3</p>	C	FQ ^{**}	4,3	2,4	FC	AA	3,1	1,2	<p>(68) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C</td><td>FQ^{**}</td></tr> <tr><td>4,3</td><td>3,4</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>2,1</td><td>1,2</td></tr> </table> <p style="text-align: center;">19/3</p>	C	FQ ^{**}	4,3	3,4	FC	AA	2,1	1,2
C ^{**}	FQ																																		
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FC	AA																																		
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<p>(36) M-2</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C[*]</td><td>FQ</td></tr> <tr><td>4,3</td><td>1,4</td></tr> <tr><td>FC[*]</td><td>AA</td></tr> <tr><td>3,2</td><td>2,1</td></tr> </table> <p style="text-align: center;">72/2</p>	C [*]	FQ	4,3	1,4	FC [*]	AA	3,2	2,1	<p>(51) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>4,3</td><td>2,1</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>3,4</td><td>1,2</td></tr> </table> <p style="text-align: center;">19/5</p>	C ^{**}	FQ	4,3	2,1	FC	AA	3,4	1,2	<p>(61) M-1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>C^{**}</td><td>FQ</td></tr> <tr><td>4,3</td><td>3,1</td></tr> <tr><td>FC</td><td>AA</td></tr> <tr><td>2,4</td><td>1,2</td></tr> </table> <p style="text-align: center;">14/5</p>	C ^{**}	FQ	4,3	3,1	FC	AA	2,4	1,2									
C [*]	FQ																																		
4,3	1,4																																		
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C ^{**}	FQ																																		
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FC	AA																																		
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C ^{**}	FQ																																		
4,3	3,1																																		
FC	AA																																		
2,4	1,2																																		

^ Natural Solution

* Nash equilibrium

** Non-myopic equilibrium

M1 Indicates that Québec has compelling threat capacity (Brams, 1990)

M2 Indicates that Québec has a deterrent threat capacity (Brams, 1990)

Numbers between parentheses [v.g. "(31)"] refer to sequential numbers given to each game in Table 2.

Numbers under a matrix [v.g. "50/5"] refer to Rapoport et Guyer's taxonomy, the first one giving the game number, and the second one the permutation according to the following order:

- 1: Rapoport et Guyer basic game
- 2: Permutation of rows
- 3: Permutation of columns
- 4: Permutation of rows and columns
- 5: Permutation of players
- 6: Permutation of players then of rows
- 7: Permutation of players then of columns
- 8: Permutation of players then of rows and columns

Numbers with a decimal (v.g. "2.1") refer to preference scales

"Québec" is the column-player, "Canada" is the row-player.

all displayed in Figure 6. The use of threat is effective in nine of these 15 games where it allows the solution to go from **FQ** to **C** in six games, from **AA** to **C** in two games, and from **FC** to **C** in one game. We should note that the threat considered here does not refer to the attempts by the "Rest of Canada" to persuade Quebecers of the risks of sovereignty, because such attempts are rather aimed at changing "Québec"'s preference scale. The threat we are concerned with here only refers to the strategies that players could adopt in future games.

3.2.3 The Use of Threat in Two Specific Games

One might think of the constitutional debate in Canada as a prisoner's dilemma situation (displayed in Figure 3). Indeed, the most widely shared preference scale in Québec, according to the Allaire report and the Bélanger-Campeau report, seems to be scale [5.2]: **FQ** > **C** > **AA** > **FC**. The *status quo* is considered as unacceptable. In the "Rest of Canada", preferences are more spread out, but the most widely reported preference scale in the media is scale [2.1]: **FC** > **C** > **AA** > **FQ**; that is we do not want to decentralize the country in order to satisfy Québec. As noted earlier, the natural solution of this game is the impasse. However, if "Canada" or "Québec" use a deterrent threat, i.e. if they adopt a cooperative attitude and threaten to change if the other does, then the outcome could be a compromise. But for this threat to be effective, the threatener must credibly renounce his first choice (**FQ** for "Québec", **FC** for "Canada"), and he must convince the other of the reality and the credibility of his threat to punish defection. If both actors use threat at the same time the outcome is the same.

A meta-strategic analysis leads to the same conclusions: if each player adopts a cooperative attitude when the other does (Tit-for-tat), they can secure for themselves a compromise as a stable outcome. In other words, in the present concrete situation, the use of threat on the part of either player could lead to a compromise if two conditions are met: 1- each player shows that he is open to a constitutional compromise; 2- each player is willing to risk Québec independence. Does that correspond to what we observe? From Québec's standpoint, the position defended in the Meech Lake negotiation and the change in Liberal party's position

with the Allaire report can be interpreted as corresponding to these two conditions. Therefore, it is possible that Québec strategists perceive that they are engaged in a prisoner's dilemma situation and that they are trying to convey the idea that Québec is now willing to contemplate a secession, after having demonstrated its openness to compromise in the Meech Lake negotiation.

The strategy of the federal government could be interpreted in the same way. On the one hand, all the efforts made by the Minister of Federal-Provincial Relations to find a solution acceptable to Québec are an indication that he is open to compromise. On the other hand, the implicit threat made to the territorial integrity of a sovereign Québec through the obvious support given to aboriginal territorial demands suggests that, if Québec does not adopt a cooperative attitude, then the "Rest of Canada" might take a hard stand.

Another configuration that could be closer to reality than one might think is one where "Québec" is decentralist federalist *à la* Ryan ([4.3] in the preference scales) and where "Canada" is centralist federalist ([3.0] in the preference scales). This configuration corresponds to the chicken game displayed in Figure 4. The natural solution of this game is the compromise C, but as shown in Table 2, this outcome is vulnerable to a threat from either player. Indeed, "Québec" can force FQ and "Canada" can force FC with the use of a compelling threat: I adopt a non-cooperative attitude and I will stick to it. This attitude resembles that of Newfoundland Premier Clyde Wells and Robert Bourassa in the 1990 negotiations. This might be an indication that the Bourassas from Québec and the Wells from the "Rest of Canada" share the same vision and perceive the situation as a chicken game. Both players consider the impasse as the worst outcome but oppose each other as to what the best solution is, the former trying to force a solution favouring Québec (scale [4.3]), the latter looking for a solution favouring the "Rest of Canada" (scale [3.0]). In this endeavour, the often subtle use of a compelling threat can improve the chances of the threatener to obtain his first choice. But when both players use threat, the outcome is AA. Thus, to avoid being depicted as "chicken", they lead the negotiation straight to an impasse.

This strategy is rational if actors consider that the negotiation in which they are engaged will be followed by others. For example, "Canada" could think that "Québec" will have more demands in the future and, consequently, that the way it plays the present game could influence the outcome of future games. As Brams noted, "the willingness of parties, for example, to accept to prolong stalemates, to refuse to negotiate at all, or to resort to the use of force -- all at a considerable cost -- can often be explained by their expectation of possibly having to face the same situation over and over again. In this context, setting a precedent of implacable firmness may, though costly at the moment if challenged, more than pay for itself later by deterring future untoward actions of opponents" (1990: 139). In this regard, Zagare (1984: 4) showed that, in a chicken game, players may have quite different strategic possibilities given specific characteristics of the environment. The Cuban missile crisis, for example, has been described as a chicken game (Brams, 1975: 39). The ideal for the Soviets was to win, and failing that, to compromise, and their worst outcome was the impasse. The Americans had the same preferences. Zagare suggested another illustration of the chicken game: the Falkland Islands crisis. For both British and Argentinians, the ideal was to win (i.e. to have the other player give up), and failing that to compromise, and their worst outcome was an open conflict (because of the costs). These two versions of the chicken game differ in that in the Cuban missile crisis case, the end result of a collision was likely to be a nuclear war. Once there, the game would stop because the two players would have been destroyed. On the other hand, in the Falkland Islands crisis, a collision did not imply the destruction of the players: one could envisage getting involved in a conflict and withdrawing prematurely.

Assuming a configuration like the chicken game, the constitutional negotiation in Canada was of a Falkland type until the Allaire report and the Bélanger-Campeau report. Even when the outcome was the impasse AA, as in the Meech-Lake-2 game, the game used to continue. With the referendum on sovereignty scheduled for October 1992, a collision may mean the end of the game: once there, and if the sovereignty side in the referendum wins, it will be more difficult, if not impossible, to back up. In other words, in the perspective of a chicken game, the present negotiation has new characteristics. It is not rational anymore for a player to adopt a hard stand

in view of future rounds of negotiation. The use of threat may be useful to get to a compromise, but it can also lead to the outcome that both players want to avoid.

Conclusion

The preceding analysis showed that:

- 1- Even if we reduce the game to two players, the situation is far from being clear. The possible preferences of the actors are multiple, and the strategic configurations are numerous since they depend on the preferences of players. We identified 80 strategic configurations.
- 2- In the whole set of possible strategic configurations, compromise appears to be the natural solution in only a few cases.
- 3- The compromise is a stable outcome mainly when "Canada" is decentralist federalist (scale[4.3]).
- 4- The outcome of the negotiation is not the *status quo* when "Québec" is nationalist. However, there is no compromise as a natural solution if "Québec" is nationalist, except when "Canada" is simultaneously decentralist.
- 5- The use of threat may be effective in some cases in order to produce a compromise, but it may also lead to the impasse.

The analysis also showed that, in the context of a chicken game, it worsens the chances of getting to a compromise if "Québec" insists that the Canadian Constitution as amended in 1982 is illegitimate and that we presently are in a political impasse (that is, we are at AA). The use of threat by both players in such a context leads directly to an impasse. In the context of a prisoner's dilemma game, the analysis showed that a compromise is possible only if both players

renounce their first choice (i.e. they show they are ready to compromise) and also if they are willing to take the risk of an impasse and of its consequences.

From these conclusions, some suggestions may be formulated to improve the chances of a compromise. The first suggestion is that we need to improve the transparency of the debate so that the implications of a given strategy are better understood before being adopted. The essential condition for this transparency is the knowledge of each other's preferences. In this respect, uncertainty is now greater than ever. On the one hand, one asks who speaks for the "Rest of Canada". The weakness of the Conservative federal government in the polls, together with the low credibility of the opposition leaders, create a vacuum in political leadership. The fact that Joe Clark was called the Prime Minister of the "Rest of Canada" when he was appointed as minister of federal-provincial relations in the spring of 1991 tells much about this situation. On the other hand, the decision rule itself is being questioned ¹¹. The fact that the federal government put together a special commission to study the amending formula in order to find an alternative to the 1982 Act formula which many thought was the cause of the Meech-Lake failure, reveals the uncertainty surrounding the decision rule: should we have a referendum, or a constituent assembly, or both ? Shouldn't we take each issue separately and, when this is possible, use the present amending formula which requires the support of seven provinces representing 50% of the population? After the publication of the Allaire report and the quasi-consensus of the Bélanger-Campeau commission in Québec, the great unknown is now the preference scale of the "Rest of Canada". The question now is: "What does Canada want ?"

The second suggestion that can be drawn from this analysis is that in order to arrive to a compromise, both Québec and the "Rest of Canada" must prove they are open to compromise, while showing that they are ready to risk Québec separation. In 1986-1987, Québec showed it was ready for a compromise. The "Rest of Canada" showed, in 1990, that it was ready to take risks with Québec. Québec must now show that it is ready to risk a secession and the "Rest of Canada" must convince Québec that it really is open to a compromise. Under these conditions, a stable compromise is possible.

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Notes

1. This is a modified version of my chapter headed "Le compromis est-il encore possible: la négociation constitutionnelle de l'après-Meech à la lumière de la théorie des jeux" published in L. Balthazar, G. Laforest and V. Lemieux (eds). 1991. Le Québec et la restructuration du Canada, 1980-1992. Sillery: Septentrion, 283-309.

2. 2 X 2 games with possible indifferences have been listed and analysed in Fraser and Kilgour (1986) and in Kilgour and Fraser (1988). For a discussion on the uncertainty of actors' preferences in a similar context, see Lemieux (1978).

3. The usual notation is used here. Thus, assuming that $4 > 3 > 2 > 1$, we give to the first choice a value of 4, to the second choice a value of 3, and so on.

4. Rapoport and Guyer (1966) showed that there were only 78 non-equivalent games and that, in terms of game theory, the 498 other games had the same basic characteristics as one of the 78 non-equivalent ones.

5. A natural solution is defined by the following assumptions: 1- if both players have a dominant strategy (i.e. a strategy which gives a better result no matter what the other player's strategy is), they both choose it; 2- if only one player has a dominant strategy, he chooses it and the other player chooses the strategy that maximizes his payoff assuming that the first player will choose his dominant strategy; 3- if a game only has one Pareto-optimal outcome (an outcome is Pareto optimal if no other outcome is better for one player and at least as good for the other player), each player chooses the strategy that leads to this outcome; 4- if no player has a dominant strategy and if the game has no Pareto-optimal outcome or if it has more than one Pareto optimal outcome, each player chooses the strategy which maximizes his minimum gain (MAXIMIN), i.e. the strategy that allows him to avoid his last choice.

6. "A Nash equilibrium is an outcome from which no player would have an incentive to depart unilaterally because the departure would immediately lead to a worse, or at least not a better, outcome" (Brams, 1990: 269).

7. "In a two-person sequential game, a non-myopic equilibrium is an outcome from which neither player, anticipating all possible rational moves and countermoves from the initial outcome, would have an incentive to depart unilaterally because the departure would eventually lead to a worse, or at least not better, outcome" (Brams, 1990: 269).

8. These numbers refer to the sequential numbers given to each game in Table 2 under the heading: "OBS".

9. Howard (1971) has shown that results are equivalent whoever is considered as the first player. For a condensed treatment, see Brams, 1975: 30-37.

10. For Brams (1990: 144), a threat is **real** if, and only if, it worsens the outcome for the threatenee when carried out; it is **rational** for the threatener if, and only if, when it succeeds, it improves his outcome over what it would be if it did not succeed; it is **credible** if it is real and rational.

11. For an analysis of the importance of decision rules in the context of the 1981 constitutional decision, see Imbeau (1991).