Economic Innovation and Sociological Analysis:
A Proposal for a Model of Entrepreneurship
in Urban Economic Development

André Robert Martin

A Thesis
in
The Department
of
Sociology

Presented in Partial Fulfillment of the Requirements for the degree of Master of Arts at Concordia University Montréal, Québec, Canada

July 1983

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ABSTRACT

ECONOMIC INNOVATION AND SOCIOLOGICAL ANALYSIS: A PROPOSAL FOR A MODEL OF ENTREPRENEURSHIP IN URBAN ECONOMIC DEVELOPMENT

André Robert Martin

Through two case studies and Schumpeter's notion of entrepreneurship, the author proposes a model of entrepreneurship in urban economic development. The two case studies in question are Place Ville-Marie, a commercial complex, and Place Bonaventure, a trade center, both in Montreal. Within each case study, the author explores the entrepreneurial dimension as an important intervening variable, and suggests that each case is an example of economic innovation. The relevance of this model is probably limited to the study of urban innovations in developed countries.
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ACKNOWLEDGEMENTS

This thesis is the result of a long process beginning with various papers produced for many graduate-level courses and seminars of the Department of Sociology and Anthropology at Concordia University. Therefore, I must acknowledge the assistance of many members of the Department, especially Professors Guindon, Jackson, Reimer, and Kyriazis. I have also received generous assistance from my thesis advisor, Professor Guy LeCavalier, who not only provided direction in the preparation of the thesis, but also supported my basic approach to the problem. I would also like to thank Ms. Lucy Felicissimo for the typing of the thesis.
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INTRODUCTION

In this thesis, a proposal for a model of entrepreneurship and economic development is presented. This will be done in Chapter IV of the thesis. In Chapter I, Schumpeter's notion of entrepreneurship is discussed. Schumpeter's notion of entrepreneurship will be applied to two case studies of urban economic development in Montréal: Place Ville-Marie (Chapter II) and Place Bonaventure (Chapter III). Place Ville-Marie is a major skyscraper, commercial complex, located in downtown Montreal. Its principal characteristic is its cruciform-shaped tower with Mount Royal in the background. Place Bonaventure is a large trade center located near Place Ville-Marie. By referring to both Schumpeter and the two case studies, a model is built where entrepreneurship is an important intervening variable. The usefulness or applicability of this model is probably restricted to developed countries. But, it offers the possibility of interpreting partially the sociological factors behind urban development.
CHAPTER I

SCHUMPETER'S NOTION OF ENTREPRENEURSHIP

Schumpeter formulated a notion of entrepreneurship in his attempt to explain the scheme of economic development. In a nutshell, economic development is fueled by economic innovations. Innovations are the successful applications of inventions. An invention is a new technical way to produce a thing or things. On the other hand, an innovation is an invention applied by an entrepreneur. In this thesis, only economic innovations are considered. An economic innovation is an invention introduced successfully into an economic market. That is, an invention becomes an economic innovation only when it penetrates a given economic market. Whether or not the invention originates in the economic market in question is immaterial; i.e., the introduction of a given invention into a specific economic market might be labelled an economic innovation in this economic market although a similar event might have happened elsewhere. This leads to the notion of the "imitative" innovation (De Melto et al., 1980: vii and xxi). Moreover, not all innovations derive from patentable inventions. Indeed, in the study of De Melto et al., only 32% of the inventions are patented (De Melto et al., 1980: xvi and xxviii).
The source and nature of inventions is not considered by Schumpeter. What is crucial for him is the application of inventions. "As long as they are not carried into practice, inventions are economically irrelevant" (Schumpeter, 1934: 88). This application may consist of a new product, the exploitation of a new market, a new way to manufacture a product, a new use for an old product, and so on. The impact or effect of an innovation is to transform the conditions of operations of some economic activities, modify the structure of the economic system, change the costs and returns of business firms and/or of public institutions (e.g., governments), and/or make available new public goods or services; the appearance of these effects or economic development activities produces a rupture and a discontinuity in the economic system.

However, in the opinion of Schumpeter, the implementation of innovations cannot be done by ordinary or (what he called) "executing" labour.\(^1\) The cause of innovations cannot be the executing labour because, by definition, the executing labour follow the old "recipe"—the regular production function. Only the "directing" labour\(^2\) can initiate

\(^1\) Executing labour is defined in reference to the directing labour (see below). That is, they perform routine tasks. They can be blue or white-collar labour. Usually, lower management use known techniques, and thus constitute executing labour.

\(^2\) By directing labour is meant decision-makers who take non-routine decisions. They perform non-standard tasks in an unstable and uncertain environment.
innovative changes. The directing labour are vital to any analysis of economic development because they bring about "new combinations" of two factors of production: the executing labour and land usage (which represents all natural resources and capital). This bringing about of new combinations is called entrepreneurship, and those persons who carry out entrepreneurship are called entrepreneurs (Schumpeter, 1934: 74). Thus, entrepreneurship implements innovations that lead to economic development activities or cases of economic development, and the entrepreneur is the personification of the directing labour and constitutes a factor of production in Schumpeter's production function for economic development (i.e., economic development is strictly defined by Schumpeter as a function of land usage, executing labour, and the economic entrepreneur).

In this production function, the entrepreneur acts as a catalyst by combining or organizing the other two factors of production in a new way. What characterizes the entrepreneur is his creativity in decision-making; i.e., the innovation(s) he produces with respect to the direction, method, and/or quantity of production (Schumpeter, 1934: 20). Furthermore, the entrepreneur is "... an innovator from the point of view of the economy as a whole..." (Penrose, 1959: 36n), and he is not necessarily found in only a capitalist economy (Schumpeter, 1954: 895n). The practice of entrepreneurship is ultimately the result of the entrepreneur's intuition, psyche, and emotional and intellectual response to
the social environment's reaction to him (Schumpeter, 1934: 84-87). However, the salient aspect of Schumpeter's notion of entrepreneurship is not the psychology of the entrepreneur, but rather it is the innovation he produces. Entrepreneurship is important and deserves special attention because it is "... a distinct process which stands in need of special explanation" (Schumpeter, 1934: 80n). Indeed, as Dobb put it, entrepreneurs are those persons "... 'who take the ruling decisions' of economic life. ..." (Dobb, 1925: 54, as quoted in Schumpeter, 1954: 895).

One should note, however, that

... everyone is an entrepreneur only when he actually "carries out new combinations", and loses that character as soon as he has built up his business, when he settles down to running it as other people run their businesses (Schumpeter, 1934: 78).

Schumpeter further states that because of the nature of the economic role of entrepreneurship, entrepreneurs cannot form a social class:

Because being an entrepreneur is not a profession and as a rule not a lasting condition, entrepreneurs do not form a social class in the technical sense, as, for example, landowners or capitalists or workmen do. Of course the entrepreneurial function will lead to certain class positions for the successful entrepreneur and his family (Schumpeter, 1934: 78).

Schumpeter's notion of entrepreneurship combines two different historical approaches to the study of entrepreneurship:¹ (1) An attempt to differentiate the economic role of entrepreneurship in economic development from other sets

¹See Wilken, 1979: 56ff.
of similar economic behaviours. This was done by Marshall (1890) through his factor of production called "organization." In Schumpeter, this factor is incorporated into the entrepreneurship factor. Knight (1921) also made a similar attempt when he "... described entrepreneurship primarily as risk-taking" (Wilken, 1979: 56). (2) An attempt to identify the factors which promote entrepreneurship. Examples are found in Weber's [1904-1905] classic analysis of the significance of the Protestant Ethic for entrepreneurial emergence, Marx and Engels' [1848] description of the revolutionary implications of the rise of an entrepreneurial class, and Veblen's [1904, 1921] critical analysis of the negative characteristics of entrepreneurship. ... (Wilken, 1979: 56-57).

Furthermore, Schumpeter's notion of entrepreneurship, with its emphasis on innovation, is more appropriate for the subject of the thesis than others, like the one of Kilby,¹ which emphasize efficiency (see for example Kilby, 1971: 27-29). Kilby applies his notion of entrepreneurship to underdeveloped countries where (according to him) inefficiency and waste are the main causes of poverty (Kilby, 1971: 29-35). In such countries, for example, the introduction of the latest technical gadget in radio broadcasting is surely not the most pressing need; the implementation of known efficient agricultural techniques is more appropriate. However, in a

¹For Kilby (1971), entrepreneurship and innovations are conceptually distinct variables and the issue of the relationship between them is an empirical one. Furthermore, what concerns Kilby, is the problematic connection between entrepreneurs, identified as ordinary businessmen, and economic growth. In an underdeveloped country, efficient businessmen are more important than producers of new gadgets.
developed country like Canada, efficiency is reasonably well-assured; consequently, new roads to development must be used, innovation being one of them. In an inter-city competitive world (e.g., the rivalry between Montreal and Toronto), the implementation of innovations can build a comparative advantage for the city which makes use of the innovations.

Schumpeter's notion of entrepreneurship is different from that of Max Weber. For Weber, the entrepreneur is by-and-large an ordinary businessman inspired by a religious calling. Hence, Weber is primarily concerned with the ideology of the capitalist class. For Schumpeter, on the other hand, the entrepreneur is a maverick or a deviant who takes no financial risks and whose exploits are temporary and non-recurring. Only the capitalist, according to Schumpeter, can take financial risks. Nevertheless, Schumpeter's entrepreneur always risks his professional reputation according to Knight (1921).

Schumpeter's work stimulated many disciples who were eager to apply his notion of entrepreneurship to the "real world" and make their own interpretations. Some of these disciples emphasize the psychological dimension of entrepreneurship "... in terms such as creativity, daring, aggressiveness, and the like" (Wilken, 1979: 58)—in a word, motivation. From this, McClelland (1965) "... related the genesis and performance of entrepreneurs to the need for achievement motivation (n/Ach) ..." (Sharma and Singh, 1980: 24).
Some other scientists emphasize the social context of entrepreneurship like Hagen (1962) who proposed that "... the creativity of a disadvantaged minority group is the main source of entrepreneurship" (Sharma and Singh, 1980: 23). Although Schumpeter's sympathy is clearly with the psychological dimension of entrepreneurship, he however was not inimical to the social context factor as contributing to economic development. On the contrary, in Schumpeter economic development is the effect of "... goals and attitudes from prior relations of production, coupled with a full recognition of the creative impulse in human history. Development ... [is] ... 'not an adaptive but a creative response to a changing environment' ... "(Schumpeter, 1939: 229, as quoted in Macdonald, 1971: 86). Finally, and in apparent agreement with Schumpeter, entrepreneurship "... can be conceptualized as a social role, or a set of similar behaviours, that may be enacted by individuals in different social positions" (Wilken, 1979: 58).

Yet, in the literature, the psychological approach, derived from Schumpeter and centering upon the personality of the entrepreneur, became the norm. Moreover, according to the psychological approach, almost any businessman, who was supposedly guided for the most part by his "intuition," was attributed the title of "entrepreneur." In Chapter IV of the thesis, a revised model of entrepreneurship is presented.
Purpose of the Thesis

The purpose of the thesis is to build a model where entrepreneurship is an important intervening variable. In order to build the model, the thesis refers to both Schumpeter's notion of entrepreneurship and two case studies: Place Ville-Marie and Place Bonaventure. Two basic concepts are used to understand these case studies: innovation and economic development. Both of these concepts, borrowed from Schumpeter, have been discussed in this chapter. However, it should be stressed that only economic innovations and economic entrepreneurs are considered in this thesis.

Although the case studies do not allow for generalizations, the thesis might be viewed as a preliminary step in a research process leading ultimately to an explanation of the sociological factors involved in entrepreneurship, either in cultural or structural terms. Cultural terms refer to values and ideologies, whereas structural terms refer to such concepts as social class and imperialism. This preliminary step is fundamental because entrepreneurship is not usually recognized by sociologists as an important factor in economic development. One notable exception is Stinchcombe (1959) whose concept of the craft mode of organization is quite compatible with small-scale non-routinized operations (Rupp, 1983: 27-28).

This thesis explores the entrepreneurial dimension in both the Place Ville-Marie and Place Bonaventure projects. It is assumed that entrepreneurship was one of the necessary factors in the emergence of these two projects.
CHAPTER II

PLACE VILLE-MARIE: A FIRST CASE STUDY

As mentioned in the previous chapter, the purpose of the thesis is to propose a model based upon Schumpeter's notion of entrepreneurship and upon an exploration through two case studies. In this case study exploration, the concept of entrepreneurship will then be considered as one of the critical elements.

Place Ville-Marie (PVM) is seen as an architectural invention within the framework of the thesis.¹ That is, PVM was a new architectural way to make large, commercial complexes, at least in Canada. At the time of its opening for business in 1962, it was an economic innovation. Moreover, it was considered by some to be also an architectural innovation, an urban design innovation, and an engineering innovation.

Prior to World War I, the Canadian Northern Railway Company decided to compete with the Canadian Pacific Railway Company and the Grand Trunk Railway Company in Montreal by building a railway tunnel through Mount Royal. As a result,

¹However, PVM has architectural, conceptual antecedents in New York's Rockefeller Center, Grand Central Station, and elsewhere.
land was assembled and bought in the midtown area of Montreal by the company. When Sir Henry Thornton became the first president (in 1922) of the Canadian National Railways Company (CN) which had taken over the defunct Canadian Northern Railway Company and its properties, he proposed an overall development of this land. His plans for the area were thwarted by the Depression, but not before a huge hole was dug (Knott, 1962: 54).

During World War II, a make-work project in the area was sponsored by the Government of Canada; it consisted of the construction of a terminal railway station for CN called Central Station. It was also at this time that the famous French town planner, Jacques Gréber, suggested that the overall development of the area consist of a plaza providing a vista towards Mount Royal along a majestic McGill College street leading up to the Roddick Gates of McGill University on Sherbrooke street.

In 1950, Donald Gordon became the president of CN. He accepted the ideas of Thornton and Gréber, but added that the development should be monumental and extraordinary. Furthermore, he insisted that outsiders, and not CN, should develop this midtown property. Five years later, William Beckendorf Sr., a real estate developer from New York, accepted to develop the northern block (seven acres) of this CN property. This block is bordered by Dorchester boulevard, University, Mansfield, and Cathcart streets.
Construction of what was to be known as PVM began in 1958 and ended in 1962. Zeckendorf received helpful cooperation from municipal authorities, but there were many financial problems. He needed many major tenants for PVM in order to secure financial backing. Finally, the Royal Bank of Canada, under its president James Muir, decided to move its head office to PVM. Soon after, other major tenants signed leases for PVM, but this was not enough to end Zeckendorf's financial problems. By 1960, Zeckendorf had a serious cash-flow problem and he was forced to join two British property companies in order to form a new company called TRIZEC that would own PVM. But, in 1963, Zeckendorf had to withdraw from TRIZEC (Lorimer, 1978: 35-36). Nevertheless, PVM opened for business in 1962.

**PVM as an Innovative Activity**

For the uninitiated, every office building looks the same; it is a square building as tall as the financiers can make it and using as intensively as possible the land upon which it is built. For the urban planner, things are not that simple; certain characteristics of such an office building can either ameliorate the urban environment or they can bring about urban blight through bad externalities such as urban transportation congestion, inhospitable surroundings, and so on.

The technological innovations of PVM refer to new ways (in Canada) to produce public and private goods and services within the central business district (CBD). Specifically,
PVM introduced to Canada a new type of office-tower complex. It produced, in a new way, financial and commercial services and goods, and it also produced, in a new way, public transportation services. It did this by being (all at once) large-scale, high-rise, multi-level (separation of vehicular traffic from pedestrian traffic), multi-purpose (combining the transportation, retail, and office functions of the CBD into one complex), and a multi-million dollar enterprise (Collier, 1974: 174). Thus, the railway, the buses, the subway, the taxis, as well as stores, restaurants, bars, cinemas, banks, an underground parking facility, and offices of many important firms, could all serve the same population within a single weatherproofed complex (Marsan, 1981: 348). Such a collection of amenities had apparently never before been united in the same building (see also Ng, 1965: 131).

PVM was built on a large-scale and thus was likely to have a big economic impact on the CBD. It was built at a cost of $125 million and is worth in 1979 dollars approximately $460 million¹ (Pinard, 1980: C1). About 17,000 people work in the PVM complex each day, and some 80,000 pass through it daily (Michaud, 1982). In the immediate area of PVM, nearly 250,000 people work, play, shop, or eat daily (Bernard, 1981: E1). In twenty years, PVM has paid nearly $240 million in municipal and income taxes (Bernard, 1981: E1). It is 42 storeys or 604 feet in height. Construction began in 1958.

¹Includes the cruciform tower, and the IBM, Esso, and Greenshields buildings (three low-rises).
and PVM was officially opened in 1962. In 1966, the IBM Building was completed, and during subsequent years extra storeys were added to each of the low-rises on the plaza.

PVM modified the economic structure of the CBD in one basic way. It bolstered in an unprecedented manner the white-collar/professional category of workers in the downtown area in terms of numbers and variety of specializations (Lorimer, 1978: 160). In turn, the number of retail workers in the St. Catherine street area also increased with the removal of the "hole" which had blocked the way to the St. James street financial area.

PVM transformed the conditions of operations of most of the economic activities of the CBD in two ways: (1) it increased the vehicular and pedestrian congestion of downtown Montreal affecting both transportation systems (i.e., the car traffic grid system and the bus and subway system) and retail sales; and (2) the direction of traffic and business was altered from an east-west flow to a north-south flow (Marsan, 1981: 345). Indeed, PVM became the new hub of economic activities in the CBD (Lorimer, 1978: 166; Marsan, 1981: 345). Furthermore, this new hub of economic activities replaced that of St. James street; the new management centre along Dorchester boulevard represented by PVM set itself apart from the old financial centre along St. James street basically because the Royal Bank and the Aluminum Company of Canada (ALCAN) moved their head offices to PVM (Shank, 1965: 163).
For the CBD, PVM, as a private enterprise, provided a public service in the form of pedestrian passageways or promenades that are weatherproofed (Collier, 1974: 7; Marsan, 1981: 348). A by-product of this public service is the car-free access to various transportation systems and to the surrounding outdoor streets and sidewalks. Thus, the pedestrian may walk across the heart of downtown to the major arteries of traffic circulation without interference from inclement weather or cars. Furthermore, the pedestrian has easy access to rail, subway, and taxi services. The segregation of different transportation systems, therefore, is also a public service (Marsan, 1981: 345 and 348). It should be noted that the original purpose of the pedestrian passageways or promenades was to provide retail services for those working in PVM. However, it soon became apparent that this commercial concourse (including shops, restaurants, movie theatres, banks, and so on) would serve not only local office workers but many more workers and consumers passing through, and not just during regular office hours.

The costs and returns of some business firms and public institutions were enormously affected by PVM, the new hub of economic activities in the CBD. The costs (e.g.s., rental space, and property tax) increased substantially, and the advent of new competition attracted to PVM also became a cost factor for many businesses. However, the returns proved to be exceptional. Such big department stores as Eaton's, The Bay (known as Morgan's at the time), Simpson's, and
Ogilvy's certainly benefited from the "revitalization"\(^1\) of the downtown area. Moreover, PVM attracted new office towers like the CIL House and the Canadian Imperial Bank of Commerce building to the area which provided more business through their employees for local restaurants, bars, movie theatres, retail stores (especially, highly-specialized stores), and other personal services in general.

Public institutions were also affected by PVM. The City of Montreal earned more revenue with PVM and other new economic activities attracted to PVM.\(^2\) Of course, the costs of improving traffic control and repairing or modifying the streets and sewers surrounding PVM were assumed by the City of Montreal, and, in an indirect way, by Hydro-Quebec and Bell Canada for electrical and telephone services. Furthermore, the federal and provincial governments were involved in and affected by, indirectly, PVM. The Canadian government had approved the CN project (i.e., Zeckendorf's master plan) for PVM, and the Quebec government (via the Quebec Municipal Commission) had accepted the "... important" by-law for the financing of the street improvement programme and the required

\(^1\) PVM forced the advent (or created the need) of the subway system in the downtown area. Stores and restaurants benefited enormously from a solution to the transportation problem (caused, in part, by PVM itself) which was resolved to a great extent by the introduction of the subway.

\(^2\) However, there has not been a cost-benefit analysis of the PVM project (Collier, 1974: 20-21), so that this sentence should not be construed, necessarily, as a statement implying that such a project was socially desirable.
expropriation" (Collier, 1974: 21). Both governments also received increased revenue from indirect taxes partly attributable to PVM.

To say that PVM was a risky venture is surely an understatement. Technologically, PVM was a risk in terms of physical size, style (multi-purpose), and in its multi-level (segregation of pedestrian walkways from transportation systems) form. In these technical areas, PVM broke new ground (by combining these areas) not only in Montreal but in Canada as a whole. Financially, PVM was a risk basically because it was so much ahead of its time. The proof for this is that it had trouble attracting tenants, and finally the developer (Zeckendorf) almost went bankrupt; in the end he had to seek partners to back his venture and thus he lost control of the project (Lorimer, 1978: 35-36).

PVM was a risk not only for the developer who made a financial gamble (as mentioned earlier) and who laid his job and reputation on the line. It was also a risk, to a lesser extent, for other people as well. More specifically, there were at least three other individuals who shared in the risk of PVM: (1) Donald Gordon, the president of CN, on whose land PVM was built; (2) James Muir, the president of the Royal Bank of Canada, PVM's first major tenant; and (3) Jean Drapeau, Mayor of Montreal, who facilitated the construction of PVM. Each of these men had gambled on PVM,¹ and in the

¹Zeckendorf, himself, would add the name of Lazarus Phillips to the list, "... the official leader of the long-
case of Drapeau, his public image was at stake.

The method of financing such a project set a new Canadian pattern.¹ But most important, the expected market for office space was much lower than the 4 million square feet proposed by Zeckendorf.² The acid test that shows that broad

established, somewhat introverted Jewish community in Montreal" (Zeckendorf, 1970: 167). Marsan sees Pei, the architect, as important (Marsan, 1981: 355). See also McKenna and Purcell (1980: 136-138), Marsan (1981: 345-346), and Collier (1974: 12-15 and 44). Knott, on the other hand, does not mention Drapeau, but would add the name of Conrad N. Hilton to the list, the hotel magnate (Knott, 1962: 62).

¹ Before PVM, the bankers played the role of suppliers of short-term capital only. In PVM, they assumed new roles. First, the Royal Bank became a long-term tenant (50 years) (see Lorimer, 1978: 165). Second,

"when finding tenants to fill up the project later posed difficulties, the Royal was as committed as Zeckendorf to the success of Place Ville-Marie, and they had the necessary muscle to ensure that it was a success. A troop of corporations, law firms and other businesses who were clients of the Royal obediently lined up for leases under James Muir's inspiration" (Lorimer, 1978: 167n).

This set a trend.

"In other projects,"² large financial institutions have purchased an equity interest in projects where they were the prime tenants. Of Vancouver's Pacific Centre, for instance, 33.3 per cent [is owned] by the Toronto-Dominion Bank. Toronto's T-D Centre's 3.3 million square feet are 50 per cent owned... by the bank" (Lorimer, 1978: 165-166).

It is similar for a string of other projects.

² Zeckendorf recalls that in 1955 he asked the top real estate men of Montreal to estimate the maximum office space Montreal could assimilate in the next five years. The answers ranged from 300,000 to 750,000 square feet (Zeckendorf, 1970: 189).
objective conditions did not completely warrant such a project at that time was that the promoter was eventually bought out. In this perspective, the contribution of entrepreneurship was to advance the project in time. In other words, PVM could have been forecasted in 1950, but only in a very vague way; something that is not very useful for the urban planner.

PVM seems to have met the characteristics of an innovation and thus qualifies as a bona fide case of innovation; i.e., it is a new technical concept effectively applied in the real world.

**Important Actors in PVM**

It is now time to identify those individuals who took, in the PVM project, decisions that were not routine. A non-routine decision is one which does not stem from a codified set of rules representing the state of the art at the time. As mentioned in Chapter I, this is the subject matter of the directing labour (or of the entrepreneurs as Schumpeter called the directing labour). Consequently, these non-routine decisions can be known as entrepreneurial decisions. Today, because of the complexity of many situations, such decision-making can be the work of a team or a group.

The non-routine, decision-making process in such a project relates to a set of similar behaviours or functions or decisions which constitute the economic role of entrepreneurship:
(1) Conceptualization

(2) Land use determination

(3) Compliance and cooperation with the public sector

(4) Risk-taking

(5) Organization of the supply of financial capital

These similar behaviours or decisions eventually lead to some kind of division of labour among different individuals according to the non-entrepreneurial roles they play in society.

Note, however, that the study of the decision-making behaviours assumed by the key individuals in the PVM project concerns only the "uniqueness" of the project and not the project as a whole. The entrepreneurs of PVM are consequently those that made the difference in matters of concept, risk, finance, public integration, etc. The thesis must show, furthermore, that only their actions led to results that outstripped the normal, expected anticipations stemming from the current opportunity conditions, and it must also show that the individuals in question also outstripped the normal or routine behaviours they were expected to play in the organizations they controlled and which were party to the PVM project. Obviously, this means that the thesis must also show that each of the key individuals involved in PVM exercised autocratically some power over the organizations they represented.

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1Here, the thesis neglects the ordinary labour and other resources because they were plentiful in Montreal at the time.
In other words, if the behaviours displayed by the individuals in PVM corresponded exactly to what was expected from them from their organizations, their behaviours or decisions could not be labelled as "entrepreneurship." A hired killer is not an entrepreneur! For all of them, going out of the bounds of their assigned task must imply some risk-taking (on top of the normal risks of their own occupations).¹

Also note that in all cases, the thesis is not interested in the psychological motives of the individual entrepreneur. Why they assumed unnecessary risks, etc., concerns the psychologist, not the sociologist. Otherwise, there is the danger of falling into the trap of the psychology of entrepreneurship à la Schumpeter.

In a way, describing the similar behaviours of the entrepreneurs in PVM amounts to also explaining why PVM materialized as early as 1962, and why it took the shape of an innovative concept that was imitated both in Montreal and in other Canadian cities.

The research of the thesis has identified five individuals who have taken, in their respective spheres, non-routine entrepreneurial decisions or behaviours that were determinant for the project. They are:

(1) Donald Gordon, president of CN from 1950 to 1966.

The federal crown corporation owned (and still

¹Normal risks are those associated with the ordinary workings of an organization, while entrepreneurial risks are those associated with entrepreneurship (i.e., with implementing innovations).
does through an emphyteutic lease) the 22-acre lot of land in midtown Montreal upon part of which PVM would be built. Gordon, like the first president of CN (Sir Henry Thornton, 1922-1932) and the famous French town planner Jacques Gréber (Marsan, 1981: 344), had decided that a master plan for the entire area was necessary (i.e., that there should not be any piecemeal project) and that the PVM project should serve more than just CN (Knott, 1962: 37). Gordon had also sought an entrepreneur to develop the property; he supervised Zeckendorf's work on PVM. His function was that of the landowner in the project, providing the project with the most fundamental resource of all, land.

William Zeckendorf Sr., president of Webb and Knapp Inc. from 1949-1965 (Knott, 1962: 66; Zeckendorf, 1970: 3). Webb and Knapp Inc. went bankrupt in 1965. It was a big real estate development firm with headquarters in New York. In 1965, it had a staff of 240 people (Zeckendorf, 1970: 168). It was the company that provided the expertise for the development of PVM, Zeckendorf was the man who had conceived of the PVM "model." He was also the man who had "... assembled the land for the United Nations building..."(Knott, 1962: 70), and who had
been responsible for the mall he "... had created between Macy's and Gimble's on Thirty-fourth Street in New York. ..." (Zeckendorf, 1970: 192). Zeckendorf, moreover, was the vice-president of Webb and Knapp (Canada) Ltd. (from 1955 to 1963), the original owner of Place Ville-Marie Corporation and its (PVM's) developer. His behaviour, among other things, was that of the conceptualizer.

(3) James Muir, president of the Royal Bank of Canada from 1949 to 1961. The Royal Bank was the first major tenant of PVM. It already had the biggest bank building in Canada on St. James street in Montreal, the head office building. "... Muir was a fierce and egotistical man. ..." (Zeckendorf, 1970: 166). He was also the most powerful and controversial figure in Canadian banking. A dominant and domineering man who kept his aides in a constant state of terror, Muir was a tough competitor who had driven his bank from the second rank to the head of the industry (Zeckendorf, 1970: 173).

His behaviour was mainly that of the financier in the project.

(4) Jean Drapeau, Mayor of Montreal from 1954 to 1957, and from 1960 to the present. Drapeau was a great supporter of PVM, and was personally involved in facilitating the project. He was also the first mayor of Montreal to negotiate
with Zeckendorf (in December, 1956), the developer. His contribution consisted of ironing out the political implications or problems of such a project. This function is important. It can sometimes mean the life or death of a project.

(5) Lucien Saulnier, the Chairman of the Executive Committee of the City of Montreal from 1960 to 1970. Saulnier was also a great supporter of PVM, and he helped Drapeau in facilitating the project. He, moreover, controlled directly the municipal planning department (Collier, 1974: 30). His contribution was consequently on the administrative side.

To really appreciate the function of each entrepreneur, one must be acquainted with the sequence of events that led to the materialization of PVM.

The sequence of events leading to the materialization of PVM went as follows. In 1950, Donald Gordon, the president of CN, had decided that the three blocks (22 acres) of prime downtown property (including the "hole") owned by CN should be developed according to a master plan. Furthermore, he did not want CN to develop the property. Instead, "... he looked for entrepreneurs" (Collier, 1974: 12). By 1957, Gordon had approved Zeckendorf's proposal for PVM (Zeckendorf, 1970: 172). These decisions taken by Gordon were also indicative of a man who was autocratic in his position as president of CN. Moreover, Gordon could have kept his job as president without developing, in such a grandiose manner, the "hole."
William Zeckendorf Sr., a real estate developer from New York, accepted the challenge to develop Gordon's land in 1955. However, his development company, Webb and Knapp (Canada) Ltd., dealt only with the northern block of the 22-acre site. Zeckendorf was at first quite apprehensive and hesitant about the project. In his autobiography he wrote, "What was frightening most people off was its size, plus the owner's insistence on an overall rather than a piecemeal development. But it was this very aspect of the situation that intrigued me" (Zeckendorf, 1970: 168). Indeed, Zeckendorf could have declined the offer to come to Montreal altogether. Later on, Zeckendorf's firm had the master plan done by the I.M. Pei architectural firm, and somehow got Muir's Royal Bank to become the first major tenant of PVM. But, according to Zeckendorf himself, it was his decision to build a masterful complex with a dramatic impact upon Montreal that "... was the most crucial decision of the whole Montreal project" (Zeckendorf, 1970: 171).

James Muir of the Royal Bank was also involved in a risky manner with PVM. He already had a head office building on St. James street, and his Royal Bank had just surpassed the Bank of Montreal in the area of assets. Why move then? Yet, he was impressed and persuaded by Zeckendorf's plan for PVM and the offer of having the main cruciform tower named after the Royal Bank. Like Gordon and Zeckendorf, Muir was an autocratic type of man. When Muir first saw the plan for PVM in May 1958, he liked it and "... typical of the man,
rather than consult with his directors about a move, he called them together, announced his plans, and then led them out to look at a model of the bank's future home" (Zeckendorf, 1970: 177).

With the Royal Bank secured as the first major tenant of PVM, the Aluminum Company of Canada (ALCAN) followed suit and soon other companies signed leases. In January 1958, CN "... signed a 99-year emphyteutic lease with Place Ville-Marie Corporation, for the block north of Dorchester Boulevard" (Collier, 1974: 15). The year before, this lease had been approved by the federal government (Lorimer, 1978: 35). Construction started in 1958. By 1960, Webb and Knapp (Canada) Ltd. had a serious cash-flow problem, and Zeckendorf was forced to join two British partners in a new company called TRIZEC. In 1963, Zeckendorf withdrew from TRIZEC (Lorimer, 1978: 35-36). The cruciform tower of PVM was opened for business in 1962.

Jean Drapeau was the Mayor of Montreal from 1954 to 1957 and from 1960 to the present. Between 1957 and 1960, Sarto Fournier was the mayor. Both Drapeau and Saulnier (Chairman of the Executive Committee) "... gave active support" (Collier, 1974: 44) to the PVM project. Saulnier was the Chairman of the Executive Committee from 1960 to 1970. These two men made sure that no government regulation or political obstacle (e.g., popular opposition movements) stood in the way of the project. For instance, the demolition of
the St. James Club¹ "... was facilitated by Mayor Drapeau" (Collier, 1974: 17). Furthermore, "there were no obstacles put in the way of securing development and building permits, the commercial zoning by-law was considered adequate and no zoning issues were raised" (Collier, 1974: 19). The master site plan for PVM "... was devised in close collaboration with Montreal's City Planning Commission..." (Zeckendorf, 1970: 172) during the early months of 1957 while Drapeau was still in office. Both Drapeau and Saulnier governed in an autocratic style which for developers like Zeckendorf was very useful. That is, like other North American big-city administrations at the time, Drapeau could have been "short-sighted" and conservative. In the early 1960's, Drapeau's administration enjoyed relative independence from political constraints such as citizens' committees.

Sarto Fournier was the Mayor of Montreal from 1957 to 1960. In August 1958, the executive committee of the city council accepted the allocation of $7.5 million for the widening of streets in the vicinity of where PVM was to be built. The loan by-law was approved by the Quebec Municipal Commission (Collier, 1974: 17). The executive committee's action was an unusual move because "... standard Canadian practice had been that the developer must share in these costs" (Collier, 1974: 16). However, Mayor Fournier's support of PVM was tentative and conditional. When the loan by-law was

¹A private businessmen's club with a long tradition in Canada.
passed by city council in favour of Zeckendorf, "... the multimillion-dollar Berri Street tunnel and underpass had to be authorized by the City Council..." (Zeckendorf, 1970: 187). In addition, when Zeckendorf asked for permission to build a sloping causeway over Cathcart street, city council bowed to the pressure provided against the causeway by the CIL company and declined to give its permission. For Zeckendorf, "... our little setback with the city fathers was putting the whole of Place Ville-Marie in jeopardy" (Zeckendorf, 1970: 191). Consequently, one cannot consider Fournier as an important or determinant decision-maker because the PVM project of Zeckendorf had gone ahead without his entire support.

In résumé, the idea of a project integrated into an overall development, in the case of PVM, belongs to Gordon which was a successor to a similar idea held by Sir Henry Thornton and Jacques Gréber. The idea of a "centricity" development (i.e., PVM) in midtown Montreal can be shared by both Gordon and Zeckendorf, but Zeckendorf alone can be held responsible for the construction and end result of the PVM project. James Muir, for his part, supplied Zeckendorf with PVM's first financial breakthrough, and thus made the project appear feasible to future tenants and many Canadian developers.

The politician's function of Drapeau and Saulnier was determinant but not crucial like the three other functions. Yet, they (the two politicians) insured quick completion of the project without bureaucratic red tape or delays from
opposition, vested interests. In comparison with routine cases in Vancouver, or the La Cité project in Montreal where the civic authorities were bogged down with antagonistic interest groups, Montreal's PVM project went about its course quite smoothly with little interference from anyone. Today, even in Montreal, such a project could not go on as smoothly. After its announcement, there would be plenty of public discussion. All sorts of "comités de citoyens" would spring up either to oppose it or modify it.

Furthermore, this history of PVM shows, among other things, that the objective conditions applied not only to the PVM project itself, but also to each of the decision-makers in his own sphere of work. For instance, Gordon did not have to risk his neck in such a project in order to keep his job at CN. Zeckendorf could have avoided losing control of the project in 1960 if he had been more conservative with his building schedule or timetable. Muir could have stayed in his office on St. James street. And both Drapeau and Saulnier could have avoided entirely the PVM project without any damage to their public reputations.

In reviewing the history of the PVM project, it is recognized that these five similar functions just described were determinant for the decision-making process that brought about PVM. Without these behaviours, PVM would probably not have materialized at that time and in that shape or form. At that time, perhaps, there might have been a large office building-type project in construction in Montreal. But, the
end result would not have been an urban, innovative concept. Consequently, one can tentatively qualify these five decision-makers as entrepreneurs because they took non-routine or entrepreneurial decisions.

Conclusion

PVM was an economic innovation in a strict sense in two ways: (1) it exploited a new market in Canada for large, commercial complexes that combine office and retail functions; (2) it exploited a new market in Canada for large, commercial complexes that provide first-class floor space at a minimum size of 20,000-square-feet-to-a-floor.

With respect to the first way, PVM produced external economies of shopping by combining on a large-scale the office and retail functions. That is, the retailers in PVM could depend on a big, nearby, almost captive supply of shoppers working in the complex. And with respect to the second way, PVM set a new standard of luxury and prestige with its big floor space which Zeckendorf anticipated would appeal to large corporations (Architectural Forum, Feb. 1963: 82 and 85). Indeed, "average floor areas in Montreal were only 10,000 square feet and most buildings lacked the required luxury" (Rowan, 1960: 125).¹

¹A confirmation that PVM was an economic innovation may be found in other complexes that imitated PVM in the one or two ways that it was an economic innovation. More specifically, Scotia Square in Halifax, Place de Ville in Ottawa,
As an economic innovation, PVM was a successful application of an architectural invention. Furthermore, by definition (i.e., according to the Schumpeterian definition of entrepreneurship), one or more entrepreneurs were necessarily involved in bringing about this innovation. Hence, given the preceding sections of this chapter, it is possible to identify the entrepreneurs of PVM, although in a very tentative manner. They were Zeckendorf, Gordon, Muir, Drapeau, and Saulnier.

Zeckendorf was perhaps the most important one of this group of entrepreneurs because it was primarily his job to develop PVM. However, it appears that the implementation of PVM needed the help of other entrepreneurs. Gordon, as president of CN, convinced Zeckendorf to accept the task of developing the proposed site, and by 1957 he had approved Zeckendorf's proposal for PVM (Zeckendorf, 1970: 172). Muir, as president of the Royal Bank of Canada, seems to have reduced the risk undertaken by Zeckendorf when his bank became PVM's first major tenant. Subsequently, PVM acquired other tenants. In effect, Muir played the part of the financier of the PVM project while acting on behalf of the Royal Bank. As for Drapeau and Saulnier, both men appear to have facilitated the development of the PVM project.

Toronto-Dominion Centre in Toronto, Lombard Place in Winnipeg, McCauley Plaza in Edmonton, among others, imitated PVM (see Collier, 1974). In Montreal, Place Bonaventure, Alexis Nihon Plaza, Place Victoria, Place du Canada, Westmount Square, Complexe Desjardins, among others, imitated PVM (see Marsan, 1981: 346 and 388; Nader, 1976: 152-153).
Finally, it appears that the shape, form, and timing of PVM were partly the result of certain decisions made by five entrepreneurs who shared (albeit unequally) in the inherent risk of such a big project and who seem to have risked their professional reputations to some degree.
CHAPTER III

PLACE BONAVENTURE: A SECOND CASE STUDY

Like PVM, Place Bonaventure (PB) is seen as an architectural invention within the framework of the thesis.¹ That is, PB was a new architectural way to make large, trade centers, at least in Canada. Moreover, it was an economic innovation at the time of its opening for business in 1967. But, as mentioned in the previous chapter, PB was also an imitation of PVM as an economic innovation in only the following way: by combining on a large-scale the office and retail functions.

When Zeckendorf made a master plan for CN of the entire 22-acre site which CN owned in midtown Montreal, that plan included the southern block upon which PB would be built. This southern block (six acres) of CN property consisted by-and-large of CN tracks. It is bordered by St. Antoine, University, Mansfield, and de La Gauchetière streets.

But, Zeckendorf would not develop the southern block. That was left up to a company called Concordia Construction. PB was under construction from 1965 until 1967. It had to

¹However, PB has architectural, conceptual antecedents in Chicago's Merchandise Mart and elsewhere.
open for business by the time Expo '67 got under way. In order to achieve that objective, the developers of Concordia Construction needed extensive support from Montreal's city hall, especially from the city's planning department. They got it. PB opened on time. Nevertheless, Concordia Construction did not find the venture very profitable. By 1969, full occupancy of the leasing space had still not been achieved. Therefore, financial control of PB was transferred to the Great-West Life Assurance Company during that year. Concordia Construction continued its association with PB, but only as a junior partner (Collier, 1974: 24 and 26).

PB as an Innovative Activity

PB was built as a multi-functional building; it includes an exhibition and convention hall, an underground shopping gallery, a luxury hotel, auction rooms, an international business centre, a merchandise or trade mart, underground parking facilities, and various other services (Marsan, 1981: 354; Nader, 1976: 152). It is also connected to the subway system, the railway Central Station (owned by CN), and PVM.

PB's main contribution to the CBD of Montreal is its particular multi-functional set of roles or activities enclosed within one climate-controlled environment. A corollary of this technological innovation is the pedestrian or circulation system within PB which is similar to an outdoor
grid of streets, but which is entirely enclosed and serves only the various functions of PB. This system is connected, however, to the outside world via underground corridors to the subway system, the railway Central Station, and PVM.

An outgrowth of this technological innovation was the novel decision-making process which produced PB (Marsan, 1981: 354). Ray Affleck, an architect and senior partner in charge of construction, called the process "a happening." The developers called it a "design-build concept" (Collier, 1974: 27). In short, this process was a team approach to the project where the architects, developers, contractors, and public regulators were simultaneously working on the project while consulting each other on a regular, if not frantic, basis. In normal practice, there is usually a sequential procedure to follow in building projects of this sort. The architects submit the designs and budget, the developers seek financing, the contractors are supposed to follow the budget, and, finally, local municipal authorities approve, modify, or reject the project. In the case of PB, it is questionable whether or not the budget was followed in any strict sense. Furthermore, city inspectors were quite liberal in their granting of construction permits, often revising them on the construction site itself (Collier, 1974: 28).

Like PVM, PB was built on a large-scale, but it is comparatively much smaller. PB was constructed at a cost of $80 million and is worth in 1979 dollars approximately
$233 million (Pinard, 1980: C1). PB complements PVM in many ways. In one way, it attracted a new pool of white-collar workers and shopkeepers to the CBD. In another way, it helped to increase traffic in the area, and it consolidated the new north-south flow of traffic and business (due to PVM) in the CBD. However, PB has a distinctive function in comparison with PVM. It is a merchandise mart. In this vein, PB provided Montreal with an embryo for a national and international role in commercial distribution by its frequent hosting of "foires commerciales" or international trade fairs. As a logical extension of PVM according to Zeckendorf's master plan of the area, PB's pedestrian (circulation) system is a public service which is weatherproofed. The system also provides the only weatherproofed, direct link to a subway station (Bonaventure métro station) for not only the PB complex but also for PVM, Central Station (CN railway station), the Queen Elizabeth Hotel, the CN Headquarters Building, and a few other adjacent buildings.

Like PVM but on a much smaller scale, PB (a private venture) affected the costs and returns of surrounding business firms. Moreover, unlike PVM, PB contains a hotel (Hotel Bonaventure). At first, CN officials feared that it would undermine their Queen Elizabeth Hotel (operated by Hilton)
located nearby. But, subsequent events (including Expo '67) demonstrated that the Hotel Bonaventure complemented the Queen Elizabeth Hotel by catering to an exclusive (read: very rich and important) clientele. In general, shoppers may tend to view PB as part of PVM.

On the other hand, the costs and returns of public institutions were of a more dubious nature. The City of Montreal, in Collier's words, did everything but man the bulldozers (Collier, 1974: 25). In the building boom preceding Expo '67 (including the subway system), city officials accommodated most of the requests of the developer of PB, Concordia Construction, in order that the project could be completed for the opening of the world exhibition. It was opened on time. For instance, design plans, construction permits, and financial concessions were expedited and facilitated in an unusual or irregular manner by city officials (Collier, 1974: 28). Of course, all levels of government in Canada received increased revenue from indirect taxes partly due to PB.¹

PVM largely determined the location of PB. It was conceived as a trade mart and transportation connection in the original master plan for the (CN-owned) downtown lots made by Zeckendorf. Although its design was greatly modified, its location was not.

¹Moreover, "... land values in the general area have gone up sharply, and there has been an undoubted stimulus to further development. A new north-south axis has been created without diminishing the importance of the familiar east-west traffic pattern along Dorchester and St. Catherine" (Collier, 1974: 31).
PVM was the prototype for modern, multi-functional or multi-purpose complexes in Montreal and elsewhere. PB followed successfully the PVM model in its own way, and as such was part of a trend when it was completed in 1967. Therefore, it may be said that PB was an outgrowth (in some features) of PVM.

The developers behind Concordia Construction\(^1\) not only made a financial gamble (and lost) on PB, but they also risked future projects by having been associated with the PB enterprise. It may also be said that, to a lesser extent, both Lucien Saulnier and Mayor Drapeau (in their hurry to see PB ready for Expo '67) risked their personal reputations for the project. Both Saulnier and Drapeau shared in the risk by expediting, in an unusual or abnormal (i.e., violating many regular, formal procedures) manner, the project through red tape. To an even lesser extent, the CN company, on whose land PB was built, also took a chance with the viability of the project, especially with respect to the Hotel Bonaventure, a potential competitor for the Queen Elizabeth Hotel. However, CN remains as the ultimate owner of the complex\(^2\) through an emphyteutic lease.

\(^1\)The original Concordia group consisted of four partners: Arnold J. Isseman, Norman Nerenberg, Kenneth J. Perry and Philip Colman" (Collier, 1974: 25). "Concordia Construction was actually set up in 1964 to handle the contract for Place Bonaventure. Two engineers were recruited to lead the subsidiary, Quinton L. Carlson and Thomas W. Phelan—men who had been involved in the construction of both Place Ville-Marie and Place Victoria" (Collier, 1974: 26).

\(^2\)As well as of PVM and other complexes in the area.
Important Actors in PB

In PB, two decision-makers who assumed important roles at the time were Jean Drapeau, Mayor of Montreal and Lucien Saulnier, Chairman of the Executive Committee of the City of Montreal. Both of them were anxious to see PB ready for the opening day of Expo '67 and were impressed by PVM (Collier, 1974: 45). Consequently, both of these politicians would not assume routine roles since the project was lagging behind the construction schedule of Expo '67. More specifically, under Saulnier, the city's planning department participated on a daily basis with the architects and the contractors in designing PB and in granting specific construction permits. Moreover, financial concessions by the city to the developers were facilitated in an unorthodox fashion. Thus, both Drapeau and Saulnier risked their respective, favourable public images in this project. These two men were not only responsible for the actions of their city officials involved in the case; but were also directly taking all of the significant decisions. Indeed, "...the city acted promptly and effectively to facilitate the construction, to improve street and subway connections, and to ease financial difficulties" (Collier, 1974: 30). In short, PB is an example of "public-private interaction" at a frenzied pace. Both the developers and the city "...were able to cut through convention and create precedents, to overcome barriers and open on time" (Collier, 1974: 8). PB was opened on the official opening day of Expo '67.
To provide some perspective for judging the role of public officials in the PVM and PB projects, let us see how this role has been played elsewhere in Canada. Public officials are routinely involved in downtown redevelopment projects because of the projects' implications for design and zoning regulations. However, in some cases, the role or the non-intervention of a high public official was a determinant factor in the success or failure of the project. Here are some examples. In the case of the Toronto-Dominion Centre, "the city could take some credit for the development or its present scale since the director of planning had done much to persuade the bank to expand its building plans. . . ." (Collier, 1974: 131). In Halifax, the Scotia Square case was decisively marked by the efforts of civic authorities. Indeed, the city was "... an instigator and active participant throughout the development" (Collier, 1974: 169). Furthermore, the federal government played an important role via the Central Mortgage and Housing Corporation (C.M.H.C.) since "... the project could not have been achieved without the intervention of the C.M.H.C." (Collier, 1974: 169). In the Place de Ville project in Ottawa, the federal government became a major tenant (Collier, 1974: 145), and in the Lombard Place in Winnipeg Air Canada became a major tenant.

1The director of city planning was Matthew Lawson. It was Lawson who "... urged Lambert [President of the Toronto-Dominion Bank] to consider something larger than a head office building. . . ." (Collier, 1974: 125).
and the Bank of Canada became a lessor. Similarly, the Alberta Government Telephones Company, a provincial crown corporation, "... was an important factor in the creation of McCauley Plaza" (Collier, 1974: 95) in Edmonton. But in Vancouver, the Harbour Park and Project 200 projects did not materialize, in part, because certain non-governmental organizations (i.e., community groups) opposed both the city council and the developers with respect to these two projects.

What Vancouver lacked was first of all the whole-hearted support of the city council, and secondly the leadership à la Drapeau-Saulnier to smother political or bureaucratic expressions of opposition. Actually, the Vancouver projects mentioned above are in a way the illustration by the negative that municipal political power is determinant and sometimes crucial in important, private urban projects. This will be the case even more so in the future. Indeed, since the late 1960's, in Canadian cities, it is virtually impossible for a major, downtown redevelopment project to avoid mixing with local community group politics, even in Montreal.

Conclusion

PB was an economic innovation in a strict sense in the following way: it exploited a new market in Canada for large, trade centers. Indeed, PB "... would provide, for the first time in Canada, a permanent facility for manufacturers and wholesalers of all kinds to maintain permanent
showrooms" (Progressive Architecture, May 1964: 60). In this respect, PB was imitated by Scotia Square in Halifax, among others (see Collier, 1974).

Given the preceding sections of this chapter, it is possible to tentatively identify the entrepreneurs of PB. They were the developers of Concordia Construction, Drapeau, and Saulnier.

The developers of Concordia Construction (Arnold J. Isseman, Norman Nerenberg, Kenneth J. Perry, and Philip Colman) were entrepreneurs because they were responsible for the development of PB. Yet, it appears that PB's implementation needed the support of two other entrepreneurs. The PB project seems to have been greatly facilitated by Drapeau and Saulnier through the city's planning department; all significant decisions pertaining to the city's role were taken by Drapeau and Saulnier (who controlled directly the city's planning department) (Collier, 1974: 30). As such, they seem to have reduced the risk undertaken by Concordia Construction's developers.

Finally, it appears that the shape, form, and timing of PB were partly the result of certain decisions made by six entrepreneurs who shared (albeit unequally) in the inherent risk of such a big project and who seem to have risked their professional reputations to some extent.
CHAPTER IV

A MODEL OF ENTREPRENEURSHIP

In the light of Schumpeter's notion of entrepreneurship and the two preceding case studies, a model of entrepreneurship could be proposed. The proposed model is also inspired by Wilken who considers entrepreneurship as an important intervening variable. The proposed model also incorporates the social context as an important factor in economic development. Before presenting the proposed model, it is appropriate to examine critically Schumpeter's notion of entrepreneurship.

Critiques of Schumpeter's Notion of Entrepreneurship

It came to pass that business promoters, captains of industry, corporate entrepreneurs, and public entrepreneurs were thought to be the contemporary counterparts of the original Schumpeterian entrepreneur. Furthermore, many extrapolations of the economic role of this Schumpeterian entrepreneur in economic development gave the impression that this factor alone was responsible for economic development and that it consisted of a simple psychological attitude. Pushed to the limit, this leads to a simple, if not simplistic, diagnosis as to the cause of economic underdevelopment. That
is, countries and regions are poor (relatively speaking) not because they lack natural resources, but because of their lack of entrepreneurship or because they cannot organize themselves. Put in another way, the source of underdevelopment is traced back to a lack of entrepreneurship rooted in poor psychological attitudes.

For instance, in the case of Canada, some have explained this country's "underdevelopment" relative to the United States as a consequence of a relative lack of entrepreneurship in Canada. For many observers, this entrepreneurial (i.e., psychological) explanation of economic underdevelopment is quite unsatisfactory. Such a strawman (i.e., entrepreneurship) was, in this form, an irresistible target for Naylor who made the following statement:

... the phrase "lack of entrepreneurship" is sheer obfuscation. For entrepreneurs are the product of their social context. [To suggest] that American industrial capitalism possessed some special attributes permitting it to take advantage of production opportunities which Canadian capitalism [failed to do] is tautological and ... trivial insofar as it fails to make specific reference to the objective social conditions of the period, especially the pattern of dependence. For the existence of domination by itself excludes innovation (Naylor, 1975: 283).

Naylor's point is quite well-taken against the psychological basis of Schumpeter's entrepreneur, just as long as it (i.e., the psychological basis) is offered as the only source of entrepreneurship. But since, as mentioned in Chapter I, the social environment's reaction to the entrepreneur had also mattered for Schumpeter, then there is no real opposition between Naylor and Schumpeter. In point of fact,
Naylor's focus on only the objective social conditions is also just a part of the complete picture of entrepreneurship. "The point is that the ultimate explanation of economic growth and of societal advancement in the Schumpeterian model is to be found in noneconomic factors brought into play through the actions of entrepreneurs" (Greenfield and Strickon, 1981: 469-470). In other words, in Schumpeter both psychological factors and the social context play a role. It is true, however, that since "the Schumpeterian formulation of economic development singles out entrepreneurship (and the entrepreneur) as the critical factor in the process" (Greenfield and Strickon, 1981: 470) attention is sometimes placed on the psychological traits of the persons designated as entrepreneurs. This is useful so long as psychological traits are to some extent an independent variable; i.e., psychological traits are not completely predetermined by the social context, and that both psychological traits and the social context are not completely predetermined by the opportunity conditions (the economic factors in the form of capital, labour, available markets, and so on) (see Wilken, 1979: 24 and 43ff.). This position has been validated by Weber who ". . . took advantage of [Marx's] the overstatement, [and solved the problem] by postulating a non-hedonistic, religious motive. . . ." (Macdonald, 1971: 83). In so doing, Weber exorcised economic opportunity conditions as the only "cause" of economic development, but in so doing he came close to falling into the trap of the "great man theory of
history" (Macdonald, 1971: 78). In other words, if one retains only the psychological traits of the entrepreneur of Schumpeter, one can end up holding the embarrassing position of the "great man theory of history."

Yet, the relative independence of the psychological motives of the entrepreneur is established as follows. Theoretically, economic activity may have any motive, even a spiritual one (e.g., the economic activities of the Catholic monasteries during the Middle Ages). Furthermore, "... there remains the overwhelming empirical evidence that successful entrepreneurs are not motivated merely by hedonistic impulses ... [e.g.,] ... successful entrepreneurs continue to accumulate more wealth than they can ever enjoy. ..." (Macdonald, 1971: 84). Finally, there were many notable studies of the supply of entrepreneurship done along the psychological traits of entrepreneurs by McClelland (1961), Hagen (1962), and others.

A final, though unrelated criticism of Schumpeter's, and of all those who support the notion of entrepreneurship, can be expressed as follows: growth can be imputed to natural resources and human resources (of the executing type) and to a residual "... variously termed 'technical change' or 'coefficient of ignorance'. ..." (Kilby, 1971: 2). In that approach, entrepreneurship is assimilated into this residual. The critics of Schumpeter and others would then state that, on the contrary, the residual accounts for technology, education, and institutional organization. The way
out of this situation is rather simple: the prevailing
technology is assimilated into the opportunity conditions,
while the institutional organization and education are assimi-
lated into the social context (discussed more fully below).
If this does not exhaust the residual, then there is room
for entrepreneurship.

The Function of the Social Context

It is possible to reconcile Naylor's "statement" with
Schumpeter's notion of entrepreneurship if one realizes that
both Schumpeter's ultimate source of entrepreneurship (intui-
tion) and Naylor's source of entrepreneurship (social context)
are simultaneously alternative and complementary sources of
factors for explaining the supply of (or lack of) entrepre-
neurship. This is why

most scholars engaged in research on entrepreneurship
following the Second World War emphasized [both] the
psychological and social characteristics of the individu-
al entrepreneur and the socialization process that
formed him. [So that,] attention gradually shifted from
the functions of entrepreneurship in economic growth to
the psychological traits of persons designated as entre-
preneurs and to the social conditions that produced them
(Greenfield and Strickon, 1981: 470-471).

More precisely, the objective conditions or environ-
ment produce goals and attitudes which in turn may be modified
somewhat (albeit marginally at times) by certain psychological
traits, among other things, in the form of a "creative response"
trepreneurship) to the changing and dynamic environment.
At least, this is the contention of Schumpeter.
Furthermore, it is a caricature to hold that Schumpeter's concept of entrepreneurship is an exclusively psychological one. Schumpeter "... did have a genuine social theory..." (Macdonald, 1971: 89). He recognized the role of all noneconomic factors (including, of course, social and to a larger extent psychological factors) in the economic development process. Being an essentialist (like Marx and others), Schumpeter had an "... ultimate explanation of economic growth and of societal advancement in the... noneconomic factors brought into play through the actions of entrepreneurs" (Greenfield and Strickon, 1981: 469-470). These noneconomic factors cover both intuition and social context; and intuition is not exclusively the product of social context.

A conciliatory model is provided by Glade (1967):

The decisions and choices of individuals are seen as taking place within social settings that are the opportunity structures.1 [However, the model continues] As these situations within which the individual finds himself change, new opportunities appear. Individuals must recognize the new opportunities and take advantage of them, or lose out to others who do. "What emerges" for Glade "as integral features of any given situation are both an objective structure of economic opportunity and a structure of differential advantage in the capacity of the system's participant to perceive and act upon such opportunities."2 Those who act upon opportunities are the entrepreneurs who then move economy and society to new stages. ... (Greenfield and Strickon, 1981: 480).

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1This is similar to the Marxian social context of objective conditions which determines, by-and-large, human actions.

The Distinction between the Definitional Significance of Entrepreneurship and the Causal Significance of Entrepreneurship

If one stipulates that economic development can only be brought about through innovation and that innovation can only be brought about by entrepreneurs, then each instance of economic development is, by definition, an instance of entrepreneurship, and vice versa for a case of a lack of economic development. This approach may not be convincing for the empirically-minded reader. In order to have a causal significance, one must demonstrate that the entrepreneurship variable must play the role of

... an intervening variable, between prior conditions [such as objective economic opportunities, the social context, and so on], on the one hand, and economic growth and development on the other. The question of causal significance involves determining the influence of this intervening variable on economic growth and development (Wilken, 1979: 5).

Yet, because of the analytic nature of the Schumpeterian concept of entrepreneurship, the translation of a definition into a causal factor is not easily made. However, there are two possible procedures: (a) specify the empirical counterpart of the definition and establish empirically the existence of a residual, thus creating room for the concept, or (b) proceed from a completely empiricist notion of entrepreneurship (see Rupp, 1983: 39). The two procedures are not in complete opposition. Actually, the first one can become the first stage of a wider approach combining both.
However, at the beginning of a scientific analysis, the two procedures (i.e., (a) the analytic definition of entrepreneurship, and (b) the empiricist definition of entrepreneurship) differ significantly. The empiricist procedure defines entrepreneurs by social structural location and activity patterns. This definition is similar to the Schumpeterian notion of entrepreneurship to the extent that both . . . identify entrepreneurs as outsiders, disruptive strangers in the framework of established organizations. Here the analogy ends . . . [because in that case] . . . entrepreneurship, innovation, and success are conceptually distinct variables . . . and the issue of the relationship between them is an empirical one (Rupp, 1983: 38-39).

The empiricist procedure begins by postulating, temporarily, the existence of entrepreneurs. Then, if the empirical test shows that the entrepreneurs are the only "cause" of innovations and economic development, it is concluded that entrepreneurship exists.

On the other hand, the analytic procedure does not postulate the existence of entrepreneurs, but it does postulate the necessary connection (a causal situation) between entrepreneurs and innovations. The issue of the mutual relationship between entrepreneurs and innovations is consequently not an empirical one. What is an empirical issue is the impact of both entrepreneurs and innovations upon economic development. If it can be shown empirically that both entrepreneurs and innovations are necessary to explain a change in economic development (while taking into consideration possible competing causes), it is concluded that the "causal significance" of entrepreneurship has been established.
The empiricist procedure has been rejected by the thesis because, although the concepts seem easier to operationalize in this procedure, this is a short-term gain since the empiricist procedure is plagued by many methodological problems. The most annoying one seems to be the "sampling by performance potential" (Rupp, 1983: 216). This problem is so grave that, although enjoying a large stock of valid observations, Rupp (1983) finally had to settle for "... conclusions concerning the causal role of entrepreneurship ... [that were mainly] ... qualitative. ..." (Rupp, 1983: 38).

A Causal Model of Entrepreneurship

To have causality there should be a relationship between prior conditions and entrepreneurship and, in turn, between entrepreneurship and economic growth and development. Therefore, the original relationship between prior conditions (independent variable) and economic growth and development (dependent variable) should be transformed.

In order to identify the "causal significance" of entrepreneurship, a model of entrepreneurship should consist

1In the empiricist procedure, the data base is often biased in favour of successful entrepreneurs, while ". . . unsuccessful entrepreneurs often disappear because of early failure, and therefore are less available for empirical observation" (Rupp, 1983: 216). In that case, the statistical test simply confirms that entrepreneurs are those that innovate successfully.
of the following elements which at the outset have been empirically observed to be at least a partial explanation of economic growth and development. These elements, variables, or factors are the objective economic opportunities, the social context, and the psychological attitude. However, these factors should be clearly specified so as to facilitate empirical verification. Accordingly, here is how each factor can be operationalized:

1. The economic opportunities of the system consist of the economic factors that promote entrepreneurship such as the existence of markets and the availability of capital and natural resources.

2. The social factors that influence entrepreneurship in the system constitute the social context: for instance, legitimacy of entrepreneurship, social mobility, marginality, social integration, security, and ideology.

3. The psychological factors stipulate the mode of behaviour of would-be entrepreneurs in the system: for instance, need-achievement, withdrawal of status respect, and motives.

A causal model of entrepreneurship can be illustrated as follows:

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1See Wilken, 1979: 7-21.

2Adapted from Wilken, 1979: 24-25.
Let $E =$ entrepreneurship

$Y =$ rate of economic growth and development

$O =$ economic opportunity conditions characterizing a particular situation

$X = f(X_1, X_2) =$ noneconomic factors alleged to influence the emergence of entrepreneurship (i.e., the social ($X_1$) and psychological ($X_2$) factors)

![Diagram of Model of Entrepreneurship as an Important Intervening Variable](image)

Fig. 1.

Model of Entrepreneurship as an Important Intervening Variable

In this model, two hypotheses are made:

(1) "... an independent influence of entrepreneurship upon economic growth and development is shown by means of the arrow drawn from E to Y" (Wilken, 1979: 25).

(2) "... entrepreneurship is made partially dependent upon the noneconomic factors, X, rather than..."
being totally influenced by the economic opportunity conditions" (Wilken, 1979: 25).

"Thus this model shows entrepreneurship as being significant for economic growth and development and noneconomic factors as being significant for entrepreneurship" (Wilken, 1979: 25).¹

Entrepreneurship will be deemed to have existed as a causal variable in a particular case of economic development if, ex post, the level of Y cannot be explained completely by the ex ante level of 0. That is, there should be a residual (as explained previously) and that this residual is, in certain aspects, different from the specific influences of education and social organization — for instance, a high growth rate in a country where at the same time 0 is extremely unfavourable (i.e., lack of capital and natural resources, decimated population, etc.). Furthermore, entrepreneurship may have been promoted by a favourable social context (X₁) and proper psychological attitudes (X₂). But note that X₁ and X₂ operate through E. Also note that in the analytic procedure the possibility of rival explanations is taken care of by the assessment of the ex ante development capacities in economic, social, and psychological terms. Therefore, it is not sufficient to show that economic development occurred in order to establish the "causative" role of entrepreneurs; great care must also be exercised in assessing the ex ante conditions.

¹Wilken (1979: 26ff.) explains in detail the workings of the model.
Furthermore, the rival procedure (i.e., the empiricist definition of entrepreneurship) is also plagued by a similar problem: the role of random factors which may play a large part in a statistical inference or analysis. For instance, Rupp (1983: 37) cites a study which through a stochastic model can reproduce a phenomenon of leadership.

Finally, the thesis' consideration of entrepreneurship as a residual factor (i.e., the assimilation of entrepreneurship into the residual) does not weaken the use of the concept of entrepreneurship. Indeed, some people may think that the residual factor is too all-inclusive. Theoretically, a residual factor can bear any name. However, even if it goes under a different name, the residual factor keeps (or refers to) the same behavioural characteristics as those of Schumpeter's notion of entrepreneurship. This is so because by definition the residual factor cannot consist of anything that resembles the economic, social, and psychological opportunity conditions. Having eliminated all other possible causes, the end result is consequently a problem of semantics, not of substance.

**Alternative Models**

Wilken's model makes use of implicit working hypotheses that might be rejected by other models; the main one being that X is independent of 0. Understandably, one's position with respect to the role of economic forces in history is critical in this matter. A Marxist approach would
probably state that goals and attitudes are the product, by- and-large, of antecedent relations of production. Schumpeter, on the other hand, would reformulate the previous statement by insisting that economic development is the effect of a response to a changing environment, and furthermore that this response "... was not uniquely determined by it and might have failed to come about!" (Schumpeter, 1939: 229, as quoted in Macdonald, 1971: 86). It should be noted that the psychological variable \( X_2 \) could take a form not completely determined by \( 0 \) or \( X_1 \). Furthermore, this thesis has shown a preference for Wilken's model whose feature is that \( X \) is independent of \( 0 \). Yet, a presentation of the alternative models might be helpful to the reader.

Using Wilken's approach, other rival models can be constructed and thus contrasted with Wilken's model. Obviously, the simple models that follow do not retain all of the complexity and nuances usually present in classical sociological schemes, but they allow one to recognize the main emphasis of each model.\(^1\)

\(^1\) The symbols are the same as the original model's (Fig. 1) except that \( \Delta Y \) represents a case of change in GNP (Gross National Product) of a country, \( 0^t \) the economic opportunities in time \( t \), and \( 0^t + \emptyset \) the economic opportunities at some date in the future after the effect of entrepreneurship has worked itself out. This formulation reflects the refinement introduced by Glade (see p. 48 of this thesis) where he suggests that each successful act of entrepreneurship moves society to a new set of increased opportunities. N.B.: in all the models \( 0^t + \emptyset > 0^t \). Similarly, \( 0^{t-m} < 0^t \) or, in words, \( 0^{t-m} \) represents the economic opportunities at some date in the past.
In Weber, the religious ethos is presented as an important factor in changing businessmen's attitudes. The religious ethos is also seen as a factor increasing the social legitimacy of entrepreneurship. All of this is reflected in the actions of entrepreneurs.\footnote{The reader must understand that for the purposes of the thesis, the two models retain from Weber and Marx (Figure 2 and Figure 3) only what seems to be pertinent for the basic model proposed by the thesis. Consequently, some important features of Weber and Marx are missing. Furthermore, being based upon secondary sources, these models may also inadvertently reflect the biases of these sources.}

The solid line represents the essential direction of causality; i.e., economic opportunities explain $\Delta Y$ completely. However, if one insists, one can take a detour through $X_1$, $X_2$, and $E$, but since these variables are completely determined by $0^t$, in
a formal approach, this is useless. Yet, the long route can be justified if for all sorts of reasons one wants to concentrate on sociological questions. For instance, a derived model could hypothesize that $E$ is in the end, the exclusive product of $X_1$ (social context) so that in the final analysis $E$ becomes redundant; i.e., $\Delta Y$ can solely be explained by $X_1$.

$$\begin{align*}
X_2(\text{psyche}) & \rightarrow E \\
\downarrow & \\
\Delta Y & \rightarrow 0^{t+\phi}
\end{align*}$$

Fig. 4. The Naive Schumpeterian Model or the "Great Man Theory of History"

This is the model that focuses on the "ultimate" explanation of economic development à la Schumpeter: the psyche of the entrepreneur.
Fig. 5. The Complete Schumpeterian Model

This model reflects the primacy of the psychological factor as the ultimate explanation, but also pictures the relationship between the psychological factor and the social context.

Fig. 6. The Populational Model

 Adopting the Schumpeterian definition, but using it in a populational (Darwinian) framework, Greenfield and Strickon (1979) construct a dynamic model (a model which incorporates retroactions of one variable with another) that describes the role of entrepreneurship in the social process (Greenfield
and Strickon, 1979: 347). Using a Darwinian metaphor, the model shows "... how entrepreneurial activity affects the community in which it occurs..." (Greenfield and Strickon, 1979: 336). The Darwinian metaphor operates as follows:

... in our view of the world, social phenomena (society, culture, and institutions such as religion, politics, and economics) ... are assumed to be the result of processes similar to the one described by Darwin for biological phenomena (Greenfield and Strickon, 1979: 338-339).

Central to the argument (as it is for Darwin in the field of biology) is the hypothesis that there is "... variation in behavior performed by individuals rather than the statistical regularities that may be abstracted from the behavior" (Greenfield and Strickon, 1979: 339-340). That is,

symbolic ability of which language is the prime example, makes it possible for human beings to contemplate events and situations other than the ones they experience directly. As a result, they can invent situations and the behaviors to perform in them (Greenfield and Strickon, 1979: 341-342).

Gradually, the new behaviours are adopted by the population and thus become the norm. This is how entrepreneurship becomes "... one source of variation among many in a population" (Greenfield and Strickon, 1979: 348). Consequently, entrepreneurial behaviours are, at least in theory, "... the source of both social pattern and its change" (Greenfield and Strickon, 1979: 349). The purpose of the model is, in the perspective of this thesis, to explain $X_1$ and its changes through $E$. This thesis does not retain this approach because it is not the goal of the thesis to explain either the supply of $E$ or how society changes. Yet, the Greenfield-Strickon.
model shows how the Schumpeterian model could be extended so as to answer much broader questions than the one the thesis is trying to answer.

The same rival models (and other similar models) can be further differentiated from Wilken's model by presenting them in another framework where they might more appropriately belong: the demand and supply of entrepreneurs. Indeed, many earlier theorists tried to explain development (or lack of it) in countries by either emphasizing the supply of entrepreneurs or the demand for entrepreneurs. Those that emphasized the "supply" (e.g., Schumpeter and Weber) held that in a case of lack of development it would be more difficult to produce a supply of entrepreneurs. They were also aware of a need for a demand for these entrepreneurs, but they implicitly hypothesized that the demand would always adapt to the changing supply, all this because the needs of the people (which indirectly account for the demand) are limitless. Note also that both Schumpeter and Weber had an eye on rather developed countries (U.S.A. and in Europe) where resources were plentiful. The policy implications of the supply approach was that, to have growth, the supply of entrepreneurs must be increased. Here, two groups of theorists must be distinguished: (a) The first group held that entrepreneurship is based fundamentally on psychology; this is where we find Schumpeter, McClelland, Hagen, and Kunkel

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1See Kilby, 1971: 6ff
(Kilby, 1971: 6). This corresponds to the $X_2$ factor. 

(b) The second group held that the social environment is fundamental; here we find Weber, Cochran, and Young (Kilby, 1971: 6). This corresponds to the $X_1$ factor.

However, not all economists thought that the supply of entrepreneurs is the most difficult problem to solve. Other economists, notably Keynes, said that the problem of a modern economy is more one of lack of aggregate demand. Consequently, they thought that the way to revive an economy was to stimulate its aggregate demand. In their approach, the supply of entrepreneurs is plentiful so that, if the demand is right, entrepreneurs will spring up automatically. This is why entrepreneurship (especially its source) is not an exciting topic for them. In the model for this thesis, this corresponds roughly to the $0$ factor. Curiously, the Marxian model fits into this category because it also emphasizes $0$.

Since, as is well-known in microeconomics, both demand and supply are necessary for a complete explanation of the level of prices, any extreme emphasis on either demand or supply is theoretically false. That is why the model for this thesis incorporates both of them. Finally, the thesis' preoccupation is with $Y$, not with the level of $E$; the conditions of supply and demand for $E$ are consequently peripheral for the thesis.
Conclusion

On page 44 of this thesis, what was presented, through Naylor, was an embodiment of the main criticisms of the concept of entrepreneurship. The thesis has already defended the position that the psychological traits are not exclusively the product of the economic opportunities and of the social context. One can now, with the help of the models presented previously, tackle the main points of Naylor's criticism as follows:

1. "... entrepreneurs are the product of their social context." This is a case of simple economic determinism. As one reviewer wrote, what is absent is the delineation of any mechanism through which the individual actions of capitalists, pursuing self-interest, affected their environment... Marx of course drew a clear distinction between the capitalist as a predetermined role-playing economic agent and the tactics he employed (Paterson, 1977: 513).

If Naylor had instead written that entrepreneurs are somewhat or largely influenced by their social context, then the differences between Naylor and Schumpeter would be mostly minimized.

2. The second point of Naylor's statement refers to the tautological implications associated with the phrase "lack of entrepreneurship." Naylor is right with respect to the definitional significance of the entrepreneurial concept, but he is wrong when entrepreneurship is tested for
its causal significance. The causal model of Wilken presented above is not tautological. In such a framework, it is possible, through empirical testing, to find cases of "lack of entrepreneurship," something which is not possible to do in the simple definitional approach.

The third and final point of Naylor's statement refers to the sentence, "For the existence of domination by itself excludes innovation." Here, this thesis fully agrees (theoretically speaking) with Naylor, and Schumpeter would also concur with Naylor on this point. As explained before, entrepreneurship is also a function of "economic opportunities." Obviously, if a country does not control its economic opportunities, it cannot control or influence its own endogenous entrepreneurship.1

1However, the final point of Naylor's might be too sweeping because it ignores three basic facts: (1) The Canadian economic structure is not totally dominated by foreigners; the presence of foreigners is only strong in the manufacturing sector, while it is small in the other sectors. (2) Indigenous political power can influence the degree of dependence — e.g., Petro-Canada. (3) Entrepreneurs can be imported. Consequently, entrepreneurship has some (or much) room to discover and exploit economic opportunities.
CONCLUSION

Schumpeter's notion of entrepreneurship has been illustrated to some extent by the two case studies of the thesis, at least with respect to economic innovations. It has also been found that the notion of entrepreneurship is even more plausible in the framework of a model à la Wilken, because this model allows for an important role for many variables such as noneconomic factors (e.g., psychological and sociological factors) while not neglecting the economic objective or opportunity conditions.

This model also provides a logical framework in which to interpret a set of historical events such as those pertaining to the PVM case. Indeed, when one manages to collect the facts describing a case like PVM, the model furnishes a method of separating the relevant facts from the not-so-relevant facts. It also allows for the categorization of these relevant facts under a few specific headings; this facilitates analysis and interpretation.

For instance, Zeckendorf's autobiography could be analyzed in the following manner with respect to the PVM case. All references to the economic opportunity conditions of the time in Montreal and in Canada may be grouped under the 0 variable. This would also cover the perception of the local
real estate developers of the local market for office space. Of course, Zeckendorf thought otherwise about this market. Similarly, the constraining architectural conditions (e.g., the big hole used by CN) could also be summarized under the 0 variable. When Zeckendorf writes about his dreams and ambitions, this may be classified under $X_2$. When he writes about the interference from the Canadian government, this may be classified under $X_1$. Finally, when he describes his relationships with Donald Gordon of CN and James Muir of the Royal Bank or with Mayor Drapeau and Lucien Saulnier and carves an important place for all of them in the history of the project, the model informs us that he is identifying his fellow entrepreneurs (the $E$ variable).

By resorting to the permutations of the model adapted from Wilken (Figure 1), as presented in Figures 2 through 6, one can readily specify the theoretical or ideological orientation of a student of such a case as PVM. This is done by identifying the working hypotheses underlying the interpretation or analysis of this student. These hypotheses determine the room that is left for the $E$ variable as an explanation of the phenomenon. This means that by simply emphasizing a particular variable at the expense of the other(s) in Figure 1, one gets a different interpretation of history.

For example, one can infer from Zeckendorf's autobiography that Zeckendorf comes closer to the Naive Schumpeterian Model or the "Great Man Theory of History" (Figure 4) than to the other models since it emphasizes or
exaggerates his personal contribution to the PVM case. On the other hand, Zeckendorf's contribution could receive quite a different treatment from the Marxian model (Figure 3). Using Figure 3, a Marxist scholar would (in the PVM case) probably emphasize the economic opportunities of the time; in any case, an office building had to be erected. He would probably also play down the innovative character of PVM. This could be done by showing that PVM was a natural outgrowth of earlier architectural trends, and by making just passing remarks about the economic role of Zeckendorf, Gordon, Muir, Drapeau, and Saulnier such as they were only doing their job in a professional manner.

It is apparent that by adopting a priori one of the models presented in Chapter IV it is possible to rewrite the story of PVM according to the point of view of various interest groups by cleverly highlighting some events while ignoring others. The way out of this dilemma is to test empirically the assumption(s) underlying each rival model and the conclusion(s) or prediction(s) offered by each rival model. In this thesis, it has been shown that the rival models are logically consistent (internally), and that their variables are anchored in an empirical context. This means that the quantification of these variables is theoretically possible. Furthermore, since the concept of innovation is based upon inventions, it is technically possible to determine unequivocally whether or not a phenomenon is an innovation. What needs to be done is to generalize the reasoning of the thesis
by extending the testing of the assumptions of the rival models by referring to a large number of cases.

However, an alternative approach to analyzing the phenomenon of large, innovative commercial complexes like PVM would be to compare the case of PVM with similar structures built elsewhere. Specifically, this would involve ascertaining the extent to which these similar structures were routine or innovative activities.
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