

WAS ST. PAUL'S BAY DISEASE ENDEMIC SYPHILIS?

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By

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Abstract

There is a definite lack of information on treponemal infections in Canada. This thesis attempts to add to the knowledge on treponemal infections from studying outbreaks of the disease from smaller geographic regions of Canada.

The purpose of this thesis is to study an alleged outbreak of syphilis, known as St. Paul's Bay Disease (SPBD) and to learn as much as possible about this disease, including its clinical and epidemiological characteristics, diagnosis and origins. This thesis provides evidence to support the contention that this 18th century outbreak of SPBD was not venereal syphilis, but rather endemic syphilis.

The findings of this study were drawn from multiple lines of qualitative and quantitative evidence. The descriptions of SPBD by the medical practitioners of that time period reflect a high degree of similarity between SPBD and endemic syphilis. These descriptions contain information on the symptoms, method of treatment, method of transmission and diagnosis of SPBD. Furthermore, when SPBD was compared to the *Sibbens* of Scotland (a confirmed outbreak of endemic syphilis) they were found to be almost indistinguishable. Lastly, the distribution and prevalence of SPBD among the affected populations were found to be more characteristic of endemic syphilis.

It is suggested that future research be carried out in three major areas: the ethnohistory of the various towns in Lower Canada, the origins of SPBD, and lastly, why the disease 'suddenly' disappeared. All of which will bring us one step closer to both understanding this outbreak and the history of treponemal infections in general.

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TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	SAINT PAUL'S BAY DISEASE AND TREPONEMAL INFECTIONS	
	Introduction	4
	Historical Overview of St. Paul's Bay Disease.....	5
	Origin of St. Paul's Bay Disease	14
	Syphilis in Lower Canada: Then and Now	15
	Treponemal Infections	20
	Venereal Syphilis	23
	Endemic Syphilis	28
	Yaws	33
	Pinta	35
	Conclusion	38
III.	MATERIALS	
	Introduction	39
	Archival Research	39
	Primary Sources on SPBD	41
	The Legislative Council and the Whole Council Minutes	41
	Medical Professionals of the 18 th Century	46
	Philippe-Louis-Francois Badelart	48
	James Bowman	49
	Robert Jones	54
	Charles Blake	54

III.	MATERIALS (con't)	
	Dr. Franz Sweddiaur	55
	Etat de Guérison pour la maladie de la Baie St. Paul	56
	Circulaires	63
	Conclusion	64
IV.	RESULTS	
	Introduction	66
	Data Analysis	66
	Percentage of Infected with St. Paul's Bay Disease (SPBD).....	80
	Prevalence by Age Group	83
	Prevalence by Sex	89
	Conclusion	91
V.	SPBD: ENDEMIC SYPHILIS OR VENEREAL SYPHILIS?	
	Introduction	92
	Syphilis in the 18 th Century	93
	Symptoms, Treatments, Transmission and Diagnosis of SPBD	95
	Venereal Syphilis or Endemic Syphilis?	104
	Sibbens of Scotland	106
	Distribution and Prevalence of Individuals Infected with SPBD	111
	Conclusion	113

VI.	CONCLUSION	
	Introduction	115
	Description of SPBD	115
	Similarity of SPBD to ‘Sibbens’	117
	Distribution and Prevalence of SPBD	117
	CONTRIBUTIONS TO THE EXISTING LITERATURE	119
	FUTURE RESEARCH	120
	APPENDICES	121
	LIST OF REFERENCES	125

LIST OF FIGURES

Figure 2.1	Lower Canada (1680-1780)	6
Figure 2.2	Geographical distribution of the endemic treponematoses in the early 1950's	20
Figure 2.3	The Clinical course of the treponematoses: the basic pattern	22
Figure 2.4	Primary chancres in primary stage syphilis	26
Figure 2.5	Secondary Syphilis	26
Figure 2.6	Tertiary Syphilis	27
Figure 2.7	Endemic Syphilis: mucous patches	30
Figure 2.8	Endemic Syphilis: gumma	30
Figure 2.9	Secondary Yaws	34
Figure 2.10	Yaws of Malaya: Gangosa	35
Figure 2.11	Various Stages of Pinta	37
Figure 3.1	The directions that Bowman included with the medications	52
Figure 3.2	A blank example of an “Etat de Guérison”	58
Figure 3.3	“Etat de Guérison” or State of Healing for the parish of L’Ile Aux Coudres	59
Figure 3.4	The ‘Circulaire’ of the Lieutenant Governor Henry Hamilton, 1786	65
Figure 4.1	Map: Parishes Infected with SPBD and the number of infected people in each parish	71
Figure 4.2	Map: Population of Parishes Infected with SPBD	74
Figure 4.3	Map: Percentage Infected in each Parish with SPBD	75

LIST OF TABLES

Table 2.0	Skeletal Studies of Treponemal Disease in Canada and Alaska ...	16
Table 2.1	Clinical characteristics of treponemal diseases	21
Table 2.2	Epidemiological characteristic of treponemal disease	21
Table 2.3	Prevalence of Endemic Syphilis by Age-Group	32
Table 3.2	General Return of Persons Infected with SPBD in the Province of Quebec, by James Bowman in 1785 & 1786	50
Table 3.3	Comparison Between Bowman's General Returns and the Priest 'Etat de Guérison' of 1786	53
Table 3.4	Summary of the Quality of the 'Etat de Guérison'	60
Table 4.1	General Return of Persons Infected with SPBD in the Province of Quebec, James Bowman in 1785	68
Table 4.2	Summary of the 35 Parishes According to the "Etat de Guérison pour la maladie de la Baie St. Paul	79
Table 4.3	Percent of Individuals Infected with SPBD in 35 Study Parishes According to the "Etat de Guérison"	81
Table 4.4	St. Pierre & St. Cuthbert Parishes: Prevalence of SPBD by age For Children (<16) and Adults (16+), using 1790 census	85
Table 4.5	Prevalence of SPBD by age for Children (<16) and Adults (16+), using 1790 census	87
Table 4.6	Prevalence of SPBD by sex in the 35 Study Parishes	91
Table 5.1	Description of SPBD by Dr. Badelart, Dr. Bowman, Dr. Jones, Dr. Blake and Dr. Sweddiar	102
Table 5.2	Major Features of the Treponematoses, including Venereal Syphilis, Endemic Syphilis and SPBD	105

Table 5.3a	A Comparison of the Major Features of Sibbens and SPBD	109
Table 5.3b	A Comparison of the Description of Sibbens and SPBD	110
Table 5.4	Distribution of SPBD and Other Endemic and Venereal Syphilis Outbreaks Among Adults and Children	114
Table 5.5	Prevalence by Age of SPBD, Endemic Syphilis in Bosnia and Burkina Faso	114

CHAPTER I

Introduction

Where did syphilis in Canada originate from? Was it present in North America prior to European contact or was it imported from the Old World? These questions are front and centre in the syphilis debate but, despite decades of research, they may never be answered. It is nonetheless argued in this thesis that much can be learned about treponemal infections from studying outbreaks of the disease from smaller geographic regions of Canada. The purpose of this thesis is to study an alleged outbreak of syphilis, known as St. Paul's Bay disease (SPBD), and to learn as much as possible about this disease, including its distribution, diagnosis and origins.

St. Paul's Bay disease (SPBD) is believed to be the first epidemic spread of venereal syphilis in the Province of Quebec (known as Lower Canada after 1791) during the 18th Century. The ramifications of the outbreak were significant, affecting everything from social life to the general health of the inhabitants of the Province of Quebec. It is believed that 5% of the total population was affected.

It is important to note that several authors have written about St. Paul's Bay disease since it was first identified in the 1770's (Sweddiar, 1796; Cochran, 1841; Riddell, 1924; Heagerty, 1928; Gauvreau, 1931; Gaumond, 1942; Tremblay, 1956; Desjardins, 1973; LeBlond, 1977; Lessard, 1989). Cochran (1841) was one of the first to attempt to present the events and details surrounding the SPBD outbreak. He wrote an article entitled, "Notes on the Measures Adopted by Government, Between 1775 and

1786, to Check the St. Paul's Bay Disease". It is important to note that most of these authors based their work on Heagerty (1928), who in turn based most of his work on Cochran's (1841) article. These secondary sources are used for the most part to recount the history of the disease and the events surrounding the outbreak. The articles overlap in content and reference many of the same sources. The two exceptions are Riddell (1924) and Lessard (1989) who cite several primary sources. Lessard (1989) recounts the events surrounding the SPBD outbreak along with detailed information concerning the medical profession and political agendas. All the literature published thus far seems to indicate that SPBD was an outbreak of venereal syphilis. LeBlond (1977) concludes that until more evidence to the contrary is provided, St. Paul's Bay disease was, in fact, venereal syphilis.

In contrast to the previous research, the bulk of the information for this study has been collected from the primary sources, as should be the case for all research. This thesis offers an in depth analysis of the primary sources and for the first time, as far as I am aware, examines the "Etat de Guérison pour la maladie de la Baie St. Paul", reports submitted by the priests from each parish infected with the disease. This study re-evaluates the primary sources relevant to the SPBD outbreak and re-assesses the diagnosis of SPBD as venereal syphilis. I argue from various lines of evidence that the outbreak is more properly classified as endemic syphilis.

The thesis is organized into six chapters. Chapter 2 describes the history of the outbreak and considers the etiologies of the treponemal infections. Chapter 3 describes

and evaluates the primary sources used in the study and considers the opinions of medical experts of the time. Chapter 4 presents the quantitative results from the analysis of the primary sources and describes the geographical distribution of SPBD in the Province of Quebec and its prevalence by age and sex. In Chapter 5 the evidence is synthesized and I argue that SPBD was endemic syphilis. Chapter 6 presents the main conclusions of the study and its contribution to the literature.

CHAPTER II

Saint Paul's Bay Disease and Treponemal Infections

It is essential to provide background information on the St. Paul's Bay Disease (SPBD) outbreak in order to provide the reader with a detailed account of the associated events and issues. This historical overview is accomplished with the aid of primary sources from the National Archives of Canada (NAC, RG 4 B 43, Vol 1 & 2; Jones, 1786) and the National Archives of Quebec (Quebec City) (NAQ, P1000; D2275; ZQ75), as well as with reference to published sources on SPBD (Cochran, 1841; Sulte, 1916; Riddell, 1924; Gauvreau, 1931; Gaumont, 1942; Desjardins, 1973; LeBlond, 1977; Lessard, 1989).

The main focus of this chapter is not only to provide a historical overview of SPBD, but more importantly, to establish a firm understanding of the distinctions between venereal and endemic syphilis outbreaks, in order to be able to properly assess the outbreak of St. Paul's Bay Disease in Lower Canada. The second half of the chapter outlines the history of syphilis in Canada and goes on to discuss the treponemal infections; namely venereal syphilis, endemic syphilis, pinta and yaws. The purpose of this section is to provide the basic information required to interpret the nature of the treponemal disease that affected most of Lower Canada during the late 18th century.

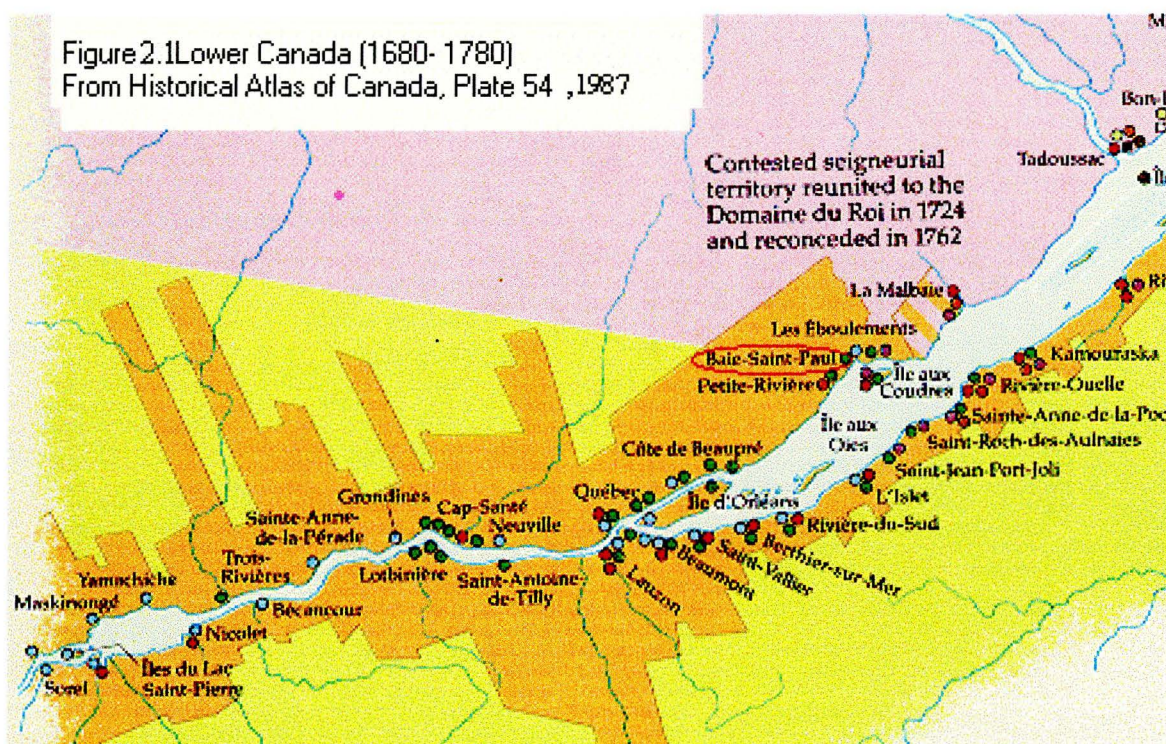
Historical Overview of St. Paul's Bay Disease

St. Paul's Bay is located some 97km east of Quebec city on the North shore of the St. Lawrence River (see Figure 2.1) (Leblond, 1977; Riddell, 1924). Saint Paul's Bay was colonized soon after Samuel de Champlain founded Quebec City in 1608 (Leblond, 1977). In 1773, this town of 500 people was ravaged by an unknown disease which spread at alarming rates throughout most of Lower Canada. The effects of the disease, commonly known as "la mal de la Baie Saint Paul" or "Mal de la Baie", were so drastic and so widespread that by 1775 the attention of the government of the Province of Quebec was drawn to it (Desjardins, 1973; LeBlond, 1977; Gaumont, 1942; Gauvreau, 1931; Riddell, 1924; Sulte, 1916; Heagerty, 1928; Cochran, 1841).

In order to fully appreciate the circumstances under which SPBD was able to flourish it is important to note that most of the rural communities of Lower Canada were very poor. Generally speaking most of the rural populations in the 18th century of Lower Canada were very poor. Furthermore, Cochran (1841:151) states that "the lower class are generally regardless of cleanliness" (Forster, 1972; Greer, 1997) and it is clear that people living in rural communities lived in very unhygienic conditions. Urban centres, such as Quebec City and Montreal, enjoyed a higher standard of living, including better housing and sanitary conditions (Forster, 1972; Greer, 1997).

In 1775, Mr. John Stephen Dan, the surgeon's mate of the Seventh Regiment of Foot, was the first doctor summoned by the Governor of the Province, Sir Guy Carleton, to

deal with this ‘mysterious’ disease¹ (Riddell, 1924; LeBlond, 1977). Mr. Dan’s orders were to treat ‘gratis’ the people of St. Paul’s Bay who were infected with this ‘new’ disease. Unfortunately, before he could accomplish this task, he was recalled to his military duties after which he died in the summer of 1776 (Riddell, 1924; LeBlond, 1977).



¹ It is important to note that there is some confusion about the exact date of the first appearance of SPBD. For example, according to Cochran (1841), government attention was drawn to it in 1773, while Dr. Mabane (NAC, RG 4 B43 vol.1) states that it was not noted until the spring of 1774.

Following Mr. Dan's death, Governor Carleton sent Dr. William Menzie, a mate of the military hospital, to St. Paul's Bay to bring back to Quebec City some of the worst cases of "St. Paul's Bay distemper" for examination by the physicians of that time (Heagerty, 1928; Lessard, 1989). According to Lessard (1989), a temporary military hospital was built in Quebec City in 1776 for the purpose of examining these patients. Oddly enough, this is the last mention of Dr. Menzie or the hospital in the archival records.

Almost simultaneously, Dr. Philippe-Louis-Francois Badelart (also spelled Badelard) was ordered by Governor Carleton (and, after his departure in 1778, by his successor Governor Haldimand) to visit St. Paul's Bay and other parishes in Lower Canada in order to treat patients with the disorder (Riddell, 1924, Heagerty, 1928; Gauvreau 1931). Dr. Badelart published a letter in "La Gazette de Quebec" in July 28 of 1784, describing the disease of St. Paul's Bay. He states:

The symptoms are so unequivocal, so certain, that one cannot mistake them. They commence in every case, in all constitutions, and at all ages with a sore throat, a dryness, a hoarseness of the vault of the palate, of the tonsils and uvula, which ulcerate and which is soon accompanied by difficulty and pain in swallowing solids; moreover the glands of the mouth are obstructed and no longer function; with white and callous ulcers at the sides of the tongue; with flat and scaly pustules at the root of the hair and on the forehead; with similar ulcerated pustules at the perineum and neighbouring parts in men and all similar parts in woman. These are the first symptoms.... Those which rapidly follow and which mark the second stage of the disease are acute continual pains in the articulations and a universal ill-feeling and lassitude which keep the sick in an invincible inertia.... The last period of the disease is marked by painful swellings of the periosteum, by budding exostoses, by caries of the spongy laminae and of the cartilages of the nose. (NAC, RG 4 B 43; Heagerty, 1928:133-134).

Dr. Badelart also states that mercury was the best treatment for those infected with the SPBD and claimed great success with it:

Whatever the cause there is one thing certain; that is, that all the preparations of mercury surely cure this disease in all subjects, ... I insist on the strongest dose of corrosive sublimate for the sick of all ages.... I used frictions in those subjects whom I believed had a weakness of the intestines, and I cured them equally well. I have given again to infants with success calomel united to two thirds of Jalap powder and Keifers pills; but mercury taken in the form of the sublimate seems to me more penetrating, more active and easier to give to the country people who can themselves follow the treatment. (NAC, RG 4 B 43; Heagerty, 1928:134)

Dr. Badelart also outlines how he altered the treatment if the individual was already at the second or final stage of the disease (Gaumond, 1942; Heagerty, 1928). Despite the fact that he was the first to describe and claim success in treating “la Mal de la Baie St. Paul”, the number of new cases did not decrease but rather increased and spread at alarming rates throughout the province of Lower Canada.

In response to the epidemic, a group of medical doctors that included Charles Blake, Robert Sym, George Selby and J. Robert wrote a letter to the Grand Jury of Montreal in order to make them fully aware of the severity and urgency of this disease. The letter identified the disease by “its true name, the pox” and went on to warn the government of “its progressive state as the plague itself, easily communicated and dreadful in its effects...” (Heagerty, 1928:136). As a result of this letter, the Grand Jury of Montreal informed His Majesty’s commissioners of this “most malignant venereal disease” and of the alarming progress in the spread of the disease (Heagerty, 1928:137). After some correspondence between the government and His Majesty, the Legislative

Council decided to identify those infected and make a list of all the people infected from every parish. This would be accomplished with the help of the priest from each parish in the hopes of devising a more effective strategy for dealing with the “St. Paul’s Bay distemper” (Cochran, 1841; Heagerty, 1928).

In 1783, at the request of General Haldimand, Bishop J. O. Briand instructed the priests through a ‘circulaire’ (letter) to “quietly and prudently learn of those who are infected in your parish. You will advise us of the number of sick known to you in your district, their sex and age, and if you know of their state only through an inviolable confidence you will encourage them to declare more openly to you in order that you can procure the necessary assistance for them” (Heagerty, 1928:138). Despite all these efforts, no progress was made in halting the disease. At this point the strategy for combatting the outbreak shifted from one that relied on military doctors to one that relied on a civilian physician, Dr. James Bowman, and on the clergy.

In 1785, Dr. James Bowman was appointed by Lieutenant Governor Henry Hamilton (Haldimand’s successor) to visit the parishes of Lower Canada (Cochran, 1841; Heagerty, 1928). Dr. Bowman was instructed to visit all the parishes in the district of Quebec in order to treat the people with “la Mal de la Baie” and to keep a detailed record of all the places he visited, as well as the age, sex and condition of each person with SPBD (see Ch. 3:6 for copy of the letter) (Heagerty, 1928). Dr. Bowman was expected to publish his results in order to provide a complete history of the disease (Heagerty, 1928; Desjardins, 1973). Bowman conducted two separate tours, one in 1785 and the other in

1786, and each tour lasted approximately four months. The objective of both of these tours was to visit all the parishes afflicted by SPBD and to treat the individuals suffering from the disease. Unfortunately, after numerous searches at the National Archives of Canada, only a few letters written by Dr. Bowman were found, while the majority of his notes concerning SPBD and its treatment, along with a report he wrote to Lord Dorchester, are nowhere to be found (Heagerty, 1928; Riddell, 1924). This will obviously limit some of what can be said about the specific cases or situations that Dr. Bowman may have encountered on his tours. Luckily, Dr. Bowman's general account of his work on SPBD is contained in the Legislative Council minutes of the government of the Province of Quebec, as well as in a few letters (NAC, RG 4 B 43, vol 2). There is also a pamphlet which Dr. Bowman wrote that accompanied the medications he gave to the priests (see Figure 3.1). It is worth mentioning that some of the missing documents may exist in British archives, since some of the reports may have been sent there.

The role of the clergy in the plan to eradicate SPBD is revealed by Bishop Louis Philippe Mariaudeau d'Esglis who informed the priest of the diocese of Quebec that Dr. Bowman would visit their parishes (Heagerty, 1928). The Bishop asked the clergy to be as cooperative as possible. In D'Esglis's (1785) letter he reveals that, "It is two years since our illustrious Predecessor wrote a circular letter... to extirpate the disease called the Mal de la Baie St. Paul. These first measures were not carried out but this year measures were taken in such a way as to lead us to hope for the prompt extirpation of this deadly scourge" (Heagerty, 1928:139). The role of the clergy was mainly to assist Dr. Bowman in any way

possible, which usually meant administering medication, helping individuals to come forward in order to receive help and to fill out the “Etat de Guérison pour la maladie de la Baie St. Paul” which were sent to the Quebec government. These “Etat de Guérison”, or ‘state of health’ reports (hereafter referred to as the priest reports), were filled out by the clergy and used to validate Dr. Bowman’s claims for recompense for his work on SPBD.

Dr. Bowman’s principle methods for curing those afflicted with the St. Paul’s Bay disease included the use of mercury, and sometimes zinc, preparations of hemlock, and large quantities of bark (Heagerty, 1928). In 1786, Dr. Bowman reported to the government of the Province of Quebec¹ that there were 4 606 people infected with SPBD during the year 1786 and 5, 801 in the previous year (Heagerty, 1928:141). He also stated that approximately 6,440 individuals were supplied with medicine and 807 claimed to be cured (Heagerty, 1928).

In order to be compensated by the Quebec government for his services Dr. Bowman was required to have the priests of every parish he visited fill out a report which consisted of the number of infected individuals as well as the number of people cured (see Figure 3.2). These priest reports would be the proof that Dr. Bowman had fulfilled his part of the agreement.

The leading medical practitioners of the time seemed to be in agreement that this “peculiar disease” was “nothing more than a confirmed syphilis, showing itself in different

¹It should be noted that before 1791 the government was Province of Quebec, but in 1791 the Constitutional Act was implemented, whereby Quebec was split into two provinces of Lower and Upper Canada (Greer, 1997).

ways in different parts of the body” (Cochrane, 1841:11; Riddell, 1924). On the other hand, most of the doctors were adamant about the fact that genital lesions were rarely found and that the spread of this ‘pox’ was facilitated by the poor living conditions of the people in the area (Gaumond, 1942; Heagerty, 1928; Riddell, 1924).

The one dissenter to the view that SPBD was venereal syphilis was Dr. Robert Jones, a surgeon in Montreal (Jones, 1786; Riddell, 1924). Dr. Jones published a pamphlet in 1786 in which he argues that SPBD and the ‘pox’ are “distinct and separate diseases, differing materially from each other in their cause, mode of infection and method of cure” (Jones, 1786). He gives three reasons for his belief: firstly, the lack of genital lesions; secondly, mercury was used to treat other diseases, such as “Guttae Serenae, strumous tumours, &c...”, and lastly, because “ the Pox is always imbibed by impure venereal cohabitation ... where both sexes will suffer the consequences” (but this is not always the case in the “Molbay Disease”) (Jones, 1786; Heagerty, 1928:150). Dr. Robert Jones cites three cases where either the wife or the husband was infected with the disease while the other did not contract it, even while they were cohabiting with each other (LeBlond, 1977; Gaumond, 1942; Heagerty, 1928). Here is one of the cases:

Sicard, aged 35, wife of ----- Sicard of the parish of Sault au Ricolet, was attacked in the common way by the Molbay disease; she did not apply for assistance until the uvula and part of the Velum Pendulum were destroyed and many large ulcers appeared on the tonsils, tongue, etc. There were also several livid spots on the nose that indicated an approaching mortification; and she complained of a constant pain in the head; in this situation she applied to Mr. Huntley who immediately ordered her on a course of mercury by unction, rubbing in two drams of mercurial ointment every night and purging it off as it affected the mouth; in almost three weeks the ulcers in the mouth disappeared and the pain in the head went off, the

skin of the nose also resumed its natural colour and the patient was dismissed as cured. In six weeks all the symptoms returned with redoubled violence and one side of the nose appeared black; she was then ordered to take a pill every night of two grains of calomel and four grains of extract of hemlock and a powder composed of twenty-five grams of Jalap and twenty grams of Nitre every fourth morning; in about a week the greater part of the contagious substance of the nose sloughed away, but the wound appearing clean and the throat getting better, the medicines were continued and in a month she was perfectly cured. During the whole process of the cure this woman's husband cohabited with her and yet remained uninfected, nor ever betrayed any symptoms of the disease (Jones, 1786).

Examples such as this were used by Dr. Jones to support his claim that St. Paul's Bay disease was not syphilis.

There is no recorded end for this Lower Canada outbreak but rather it is described as diminishing gradually over many years (Gaumond, 1942). The only archival records related to the SPBD after the late 1780's, however, are those from Dr. James Bowman's claims against the government for reimbursement for his services.

Origin of St. Paul's Bay Disease

The origin of many diseases is unknown and in most cases very difficult if not impossible to determine. St. Paul's Bay disease is no exception and this is reflected quite clearly in the various names that refer to it. For example, some believe the disease came from the English and therefore called it the English disease, others blamed the German troops (the German disease), and still others blame the Juestecruux (Lusta Cruo), an unidentified Aboriginal group (Riddell, 1924; Gaumond, 1942; Heagerty, 1928). Other names used to refer to St. Paul's Bay disease are the Sibbens, la Maladie de Mal Baie, Molbay disease, le Mal de Chico, Vilain Mal, Mauvais Mal and Gros Mal (Riddell, 1924; Cochrane, 1841).

One of the most common explanations for the origins of “la mal de la Baie de St. Paul” is that the disease was introduced via a detachment of Scottish soldiers who spent the winter in St. Paul’s Bay during the early 1770’s (Gaumont, 1942; Heagerty, 1928; Riddell, 1924; Cochrane, 1841). This seems plausible because a similar epidemic of ‘Sibbens’ broke out in Scotland sometime during the early 18th century, with similar manifestations to “la Mal de la Baie St. Paul” (Heagerty, 1928; Riddell, 1924).

Another popular theory is that the ‘mal’ was introduced by an Aboriginal group called the Juestecrux or Luesticreux, who were thought to carry the germ of the ‘maladie’ with them (Gaumont, 1942; Riddell, 1924). This theory extends from the observation that the Aboriginal people of Canada were infected by a similar disease and that they could cure themselves from it. This suggests that the disease was present in the region for some time and therefore, according to the people of Lower Canada, accounts for the outbreak.

Syphilis in Lower Canada: Then and Now

In order to evaluate these explanations, it is necessary to retrace the history of treponemal infections during early post-contact times in Lower Canada. Unfortunately, there is very little information and a definite lack of studies pertaining to skeletal remains with treponemal infections in Lower Canada (and in Canada, for that matter). As a result, this limits what can be said about the presence of the treponemal diseases, like syphilis, during the pre-contact and early post-contact periods (before written records existed). Only a handful of studies have been conducted on syphilis in Canada; three from Ontario (Jimenez, 1991; Saunders, 1988; Molto and Melbye, 1984), and another three from the

West Coast (Keenleyside, 1994; Cybulski, 1991, Skinner, 1991) (see Table 2.0). These authors have identified possible treponemal infections in skeletal remains based on the presence of “classic” treponemal lesions including; caries sicca, gummateous osteoperiostitis, deformed long bones (especially the tibia) and/or nasal-palatal destruction (Powell, 1992). These studies have identified a number of individuals from both the pre- and post-Columbian time periods with possible treponemal infection. Unfortunately, no studies on treponemal infection in Lower Canada were located.

The written record is more useful for gathering information concerning treponemal infections, in the post-contact era. One must rely on sources such as the journals and letters of various explorers and doctors. The history presented here focuses on syphilis, since it is believed to be the only treponeme ever present in Canada (Hackett, 1963; Hudson, 1957).

Table 2.0: Skeletal Studies of Treponemal Disease in Canada and Alaska		
STUDY	DATE	LOCATION
Keenleyside, A. (1994)	18 th and 19 th century	Unalaska and Alaska
Jimenez, Susan (1991)	1820-1874	Belleville, ON
Cybulski, JS (1991)	pre-Columbian	Duke Point, BC
Skinner, MF (1991)	pre-Columbian	Gabriola Island, BC
Saunders, Shelley (1988)	early 16th century	MacPherson Site, ON
Molto and Melbye (1984)	17 th century	Southern Ontario

One of the earliest references to syphilis in Lower Canada was made by Jacques Cartier during his second voyage in 1541 (Gaumond, 1942). One of his shipmates had the disease for several years, presumably acquired in France (Gaumond, 1942). Cartier mentions this case because he is impressed by the fact that this individual was cured by the Aborigines (unidentified) of Canada, using what he thinks was a remedy concocted from the Annedda tree (Gaumond, 1942). This observation implies that venereal syphilis could have been present for some time in Canada, especially if this unknown Aboriginal group had a cure for it. However, it should be noted that this could have been a general cure used for several illnesses that just happened to work on venereal syphilis.

Peter Kalm, a Swedish botanist who explored North America with the intention of finding new seedlings to bring back to his homeland (Benson, 1964), kept meticulous notes on everything he observed, including disease. He noted that:

The intermitting fever sometimes appears amongst the people here, and venereal disease is common. The Indians are likewise infected with it; many of them have had it, and some still have it; but they are possessed of an infallible art of curing it. There are examples of Frenchmen and Indians, infected all through the body with this disease, who have been "radically" and perfectly cured by the Indians within five or six months. The French have not been able to find out this remedy, though they know that the Indians employ no mercury, but that their chief remedies are roots, which are unknown to the French (Benson, 1964:390).

Kalm also made observations on the lifestyles of the people in Canada and remarks that "notwithstanding their poverty, they are always cheerful, and in high spirits" (Forster, 1972:451).

Another reference to syphilis can be found among the writings of Pierre Aman, a surgeon. He states that in 1671, he treated a young girl from the Beaupré seigneurie for a venereal infection. According to her father, she was “gâtée d’un homme” or spoiled by a man (Lessard, 1989). Still another mention of syphilis is found in the records of General Murray of the government of the Province of Quebec. He paid a Dr. Bussle to cure several (unnamed) women of syphilis (poxed women) in 1761 and then in 1764 paid Dr. Mabane to cure other women of gonorrhoea (Gaumont, 1942). This is very interesting because it establishes the fact that sexually transmitted diseases were in fact present before the St. Paul’s Bay outbreak.

This evidence for syphilis from the early records suggests that epidemic rates of a treponemal infection in Lower Canada or Canada did not exist before the SPBD outbreak of the late 18th century. Even though syphilis was present it was either a rare occurrence or that it was rarely mentioned in written sources.

This is supported by the fact that no mention of syphilis (or any of its other names) is to be found anywhere in the “Jesuit Relations and Allied Documents: Travels and Explorations of the Jesuit Missionaries in New France 1610-1791”, nor in “Les Annales de l’Hotel Dieu de Quebec” (Gaumont, 1942). As part of the research for this project, I conducted an extensive search of the Relations using key words such as disease/illness, syphilis, venereal distemper, grand pox, gross vérole, mal anglais, mall allmande and St. Paul’s Bay disease, but no references to relevant information was found. These terms were utilized because they were most likely to yield positive results.

Does this mean that sexually transmitted diseases were absent? Not necessarily, but the absence of accounts could indicate hesitation in reporting such issues, or that such afflictions were not considered to be a serious problem worthy of comment. One would expect to find some reference to SPBD in either of these documents, given that it was a significant event in that period. In fact, there is strong evidence that people with the disease were stigmatized. This is clearly the case with respect to the lack of records on victims of SPBD in the archives of l'Hotel Dieu. Dr. Nooth reports that the nuns would not allow people infected with SPBD to enter the hospital (NAC, RG 4 B 43, vol.2). This information is crucial because it indicates that sexually transmitted diseases were under-reported at this time.

Throughout most of the 19th and early 20th centuries syphilis was present and found in all parts of Canada. Unfortunately, there are no records kept or studies that provide any statistical information (Cassels, 1987). However, a survey conducted in New York City in 1874 estimated that an astonishing 1 out of 19 people suffered from syphilis (Kiple, 1993). It was not until the huge increase in venereal infections after the first World War that the authorities began to keep records on the prevalence of syphilis (Cassels, 1987). Even though most of the data comes from military personnel, it gives us an idea of the prevalence of sexually transmitted infections (STI) in Canada. After the war, "The Official History of the Canadian Forces" stated that 15.8% of Canadian troops sent overseas had a venereal disease and that 4.5% of these cases were syphilis (Cassels, 1987:123). An upwards trend in the number of syphilis cases persisted until the early

1940's when penicillin became the drug of choice for the treatment and cure of syphilis (Cassels, 1987). Thereafter, there has been a downward trend in the rate of syphilis infection in Canada, reaching an all time low of 0.4/100 000 in 1996 and 1997, which translates into approximately 120 cases nationwide (Health Canada, 2001). The most recent data gives a rate of 0.6/100 000 in 1999 for Canada (see Appendix A) (Health Canada, 2001). The majority of the cases are among those aged 20 to 59; within this group, the highest prevalence is found in the 25-29 age group (Health Canada, 1996).

Treponemal Infections

The treponemal infections manifest themselves as four clinically different diseases with a worldwide distribution ranging from the tropical to temperate zones of all the continents (see Figure 2.2) (Grin, 1953; Ortner and Putschar, 1985). These diseases include venereal syphilis, endemic syphilis, yaws and pinta, the last of which does not affect the bones of infected individuals (Cotran, *et al.*, 1999; Ortner and Putschar, 1985).

Figure 2.2: Geographical distribution of the endemic treponematoses in the early 1950's. Venereal Syphilis, which is more or less prevalent throughout the world, is not shown (from Grin, 1956:960).

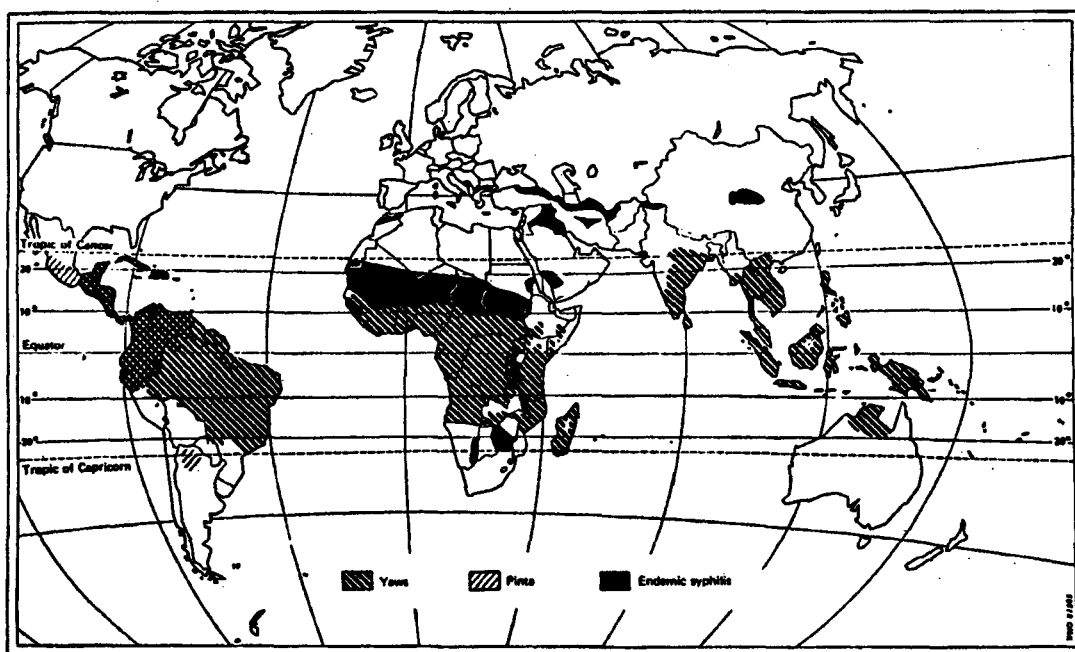


Table 2.1: Clinical characteristics of treponemal diseases (from Grin, 1953:14).

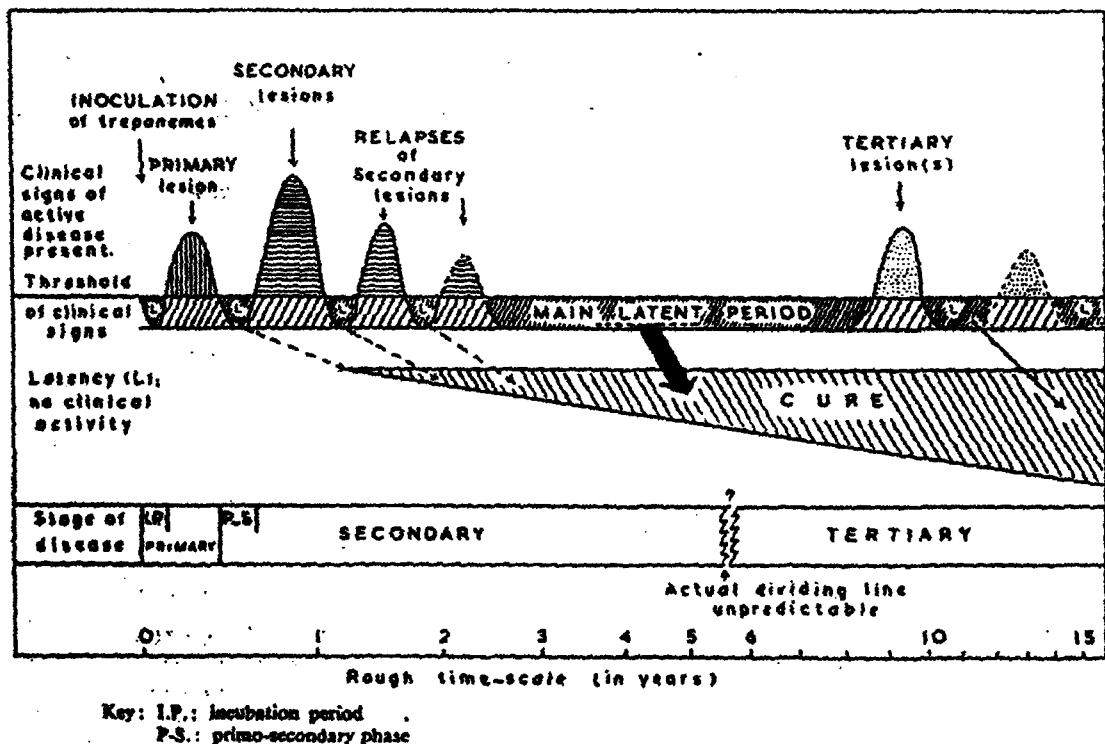
Clinical characteristics	Treponemal disease			
	Venereal syphilis	Endemic syphilis	Yaws	Pinta
Initial lesion	common	rare	common	common
Location	genitals	oral mucosa	extremities	extremities
Disseminated lesions	80-100% of cases	90-100% of cases	90-100% of cases	common
Location	systemic	intertriginous areas	skin, bone	local
Extent	widespread	limited	widespread	limited
Constitutional symptoms	common	rare	rare	never
Regional lymphadenopathy	common	common	common	infrequent
Infectious relapses	25% of cases	unknown	75-90% of cases	none
Late complications:				
Estimated frequency	35% of cases	frequent	10% of cases	very frequent
Gummata/ulcers	10-15% of cases	25-50% of cases	10% of cases	rare
Location	skin, bone, viscera	bone	bone	skin
Neurological	10% of cases	unknown	never	never
Cardiovascular	10-15% of cases	unknown	never	never

Table 2.2: Epidemiological characteristics of treponemal diseases (from Grin, 1953:2).

Epidemiological characteristic	Treponemal disease			
	Venereal syphilis	Endemic syphilis	Yaws	Pinta
Occurrence	sporadic, urban	endemic, rural	endemic, rural	endemic, rural
Geographical distribution	worldwide	South-west Asia, sub-Saharan regions of Africa, Bosnia	Africa, south-east Asia, Western Pacific, South America, Caribbean	Central and South America, Mexico,
Climate in which the disease mostly occurs	all types	arid, warm	humid, warm	semi-arid, warm
Age group with peak incidence (years)	18-30	2-10	2-10	15-30
Transmissibility	high	high	high	low
Mode of transmission:				
Direct (person to person)				
Sexual	usual	no	no	no
Non-sexual	rare	yes	usual	probable
Indirect				
Utensils	rare	usual	rare	unknown
Contaminated fingers	unknown	unknown	probably frequent	unknown
Congenital	occasional	unknown	no	no
Reservoir of infection	adults	children 2-15 years old; contacts in home, school and village; latent cases capable of becoming active	children 2-15 years old; contacts in home, school and village; latent cases capable of becoming active	cases with long-standing skin lesions

These four diseases are very closely related, both clinically and epidemiologically (see Table 2.1 and 2.2), and the skeletal lesions produced by venereal syphilis, endemic syphilis and yaws are virtually indistinguishable from one another (Cotran, *et al.*, 1999; Turner, 1959; Grin, 1953). As a result of these similarities, the treponemes offer partial cross-immunity to one another because they elicit the same antibodies (Sting, 1992,1993, Grin, 1953). The treponemes also have a common basic pattern when left untreated (many variations do exist with every case), which usually consist of a primary, secondary and tertiary stage (see Figure 2.3) (Turner, 1959; Steinbock, 1976).

Figure 2.3: The Clinical course of the treponematoses: the basic pattern (from Turner, 1959:18).



The various theories on the origin of the treponemal infections, as well as the discussion on whether they are all the same disease with different clinical manifestations (treponematoses) or that they are separate diseases arising from separate micro-organisms (treponematoses), are beyond the scope of this thesis and therefore will not be discussed (see Baker and Armelagos, 1988; Willcox, 1974; Hudson, 1965, 1968; Hackett, 1963). Rather, the following section describes the clinical and epidemiologic features of syphilis, endemic syphilis, yaws and pinta.

Venereal Syphilis “The Maimer of the Innocent as well as punisher of the guilty”

The Great Pox or La grosse vérole, the Italian disease, the German disease, morbus gallicus (the French disease), lues venera (venereal disease), the curse, venereal distemper, bubal, the Polish disease, are only some of the terms used to describe what is known today as syphilis (Singh and Romanowski, 1999; Dunlop, 1962; Ashburn, 1947). Syphilis is also referred to as “The Great Imitator” or “The Great Imposter” due to the fact that it is a systemic sexually transmitted disease that has several clinical manifestations (Cotran, *et al.*, 1999).

The causative agent of venereal (acquired or sporadic) syphilis is the spirochete *Treponema pallidum* subspecies *pallidum* (Singh and Romanowski, 1999). The usual mode of transmission is sexual contact, especially in the genital region. The organism is most likely to enter the body via the skin or mucous membranes near the skin surface (Cotran, *et al.*, 1999). Venereal syphilis can also be transmitted transplacentally, which results in congenital syphilis. It is transmitted less commonly by kissing, blood

transfusion, and accidental inoculation (Singh and Romanowski, 1999). *T. pallidum* is disseminated throughout the body by means of the bloodstream (Ortner and Putschar, 1985). Generally speaking, acquired syphilis affects individuals beyond the age of puberty (Ortner and Putschar, 1985). According to a study on the age distribution of individuals infected with syphilis in New York City in 1943, there was only a 0.4% infection rate among children under the age of 15, while the rates increased dramatically for the 15-19, 20-24 and 25-29 age groups to 14.8%, 32.4% and 19.3%, respectively (Grin, 1957).

Even though humans have no natural immunity to syphilis, most infected individuals do develop some sort of resistance to their infection and in fact in about 25% of cases the infected person experiences a 'self-cure' or spontaneous remission (Sting, 1992:260). In the remaining 75% , the immune system plays an integral role in determining the length of the latency period as well as the complications that arise in the tertiary stage (Sting, 1992; Willcox, 1974).

Clinical Manifestations. Primary syphilis occurs approximately three weeks after contact with an infected individual and results in a single firm, non-tender, raised red lesion called a chancre (Singh and Romanowski, 1999). This chancre is located at the site of treponemal invasion or site of inoculation and is most often found on the penis, cervix, vaginal wall or anus (see Figure 2.4) (Cotran, *et al.*, 1999). It is important to note that extra-genital chancres are found in less than 2% of patients and are distinctive in that they have raised edges and are associated with pain (Singh and Romanowski, 1999). All chancres, regardless of location, heal in a few weeks with or without treatment.

Secondary syphilis typically occurs two to twelve weeks after the primary chancre emerges (Singh and Romanowski, 1999). In approximately one-third of patients the primary chancre is still present, making the differentiation between primary and secondary syphilis difficult (Singh and Romanowski, 1999). Secondary syphilis is characterised by a diffuse rash universally distributed about the body and often involves the palms of the hands and soles of the feet (see Figure 2.5) (Singh and Romanowski, 1999; Cotran, *et al.*, 1999). The rash is described as “raw ham” or copper coloured (Singh and Romanowski, 1999). The lesions most often heal on their own and occasionally leave the afflicted individual with scarring or hyper- or hypopigmentation (Singh and Romanowski, 1999). This demarcates the beginning of “latent or asymptomatic syphilis”, the period characterised by the disappearance of the secondary presentations prior to the onset of tertiary syphilis or therapeutic cure (Singh and Romanowski, 1999).

Tertiary syphilis occurs years after the primary chancre appears and is not as well defined as the first two stages of syphilis. It usually begins with the involvement of other organs, such as the skeleton and heart (Cotran, *et al.*, 1999; Ortner and Putschar, 1985). Tertiary syphilis most frequently results in cardiovascular syphilis which involves the aorta (80-85%), neurosyphilis which involves the central nervous system (5-10%) and late benign syphilis which usually affects the liver and skeleton (Singh and Romanowski, 1999; Ortner and Putschar, 1985). It is crucial to note that less than 1% of infected individuals develop permanent bone lesions and that 70% of the bones affected include the cranial vault, nasal cavity and tibia (Ortner and Putschar, 1985). The most common location for tertiary syphilitic lesions is in the skull, especially the perinasal area and

Figure 2.4: Primary chancres in Primary Stage Syphilis; top (vulva), bottom (tongue) (from Sting, 1992:261).

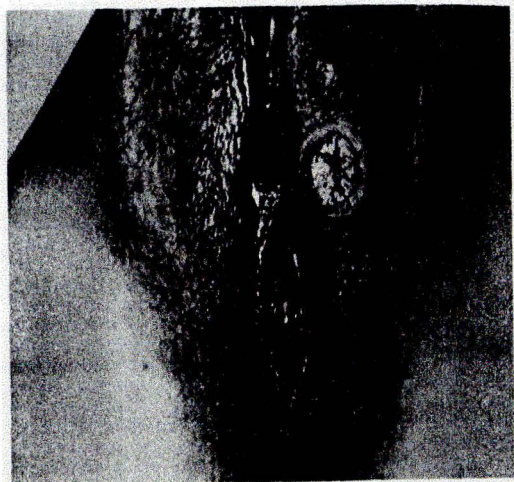


Figure 2.5: Secondary Syphilis: generalized pustular lesions (from Sting, 1992:263)



Figure 2.6: Tertiary Syphilis: Ulcerating gummas (from Sting, 1992:266).

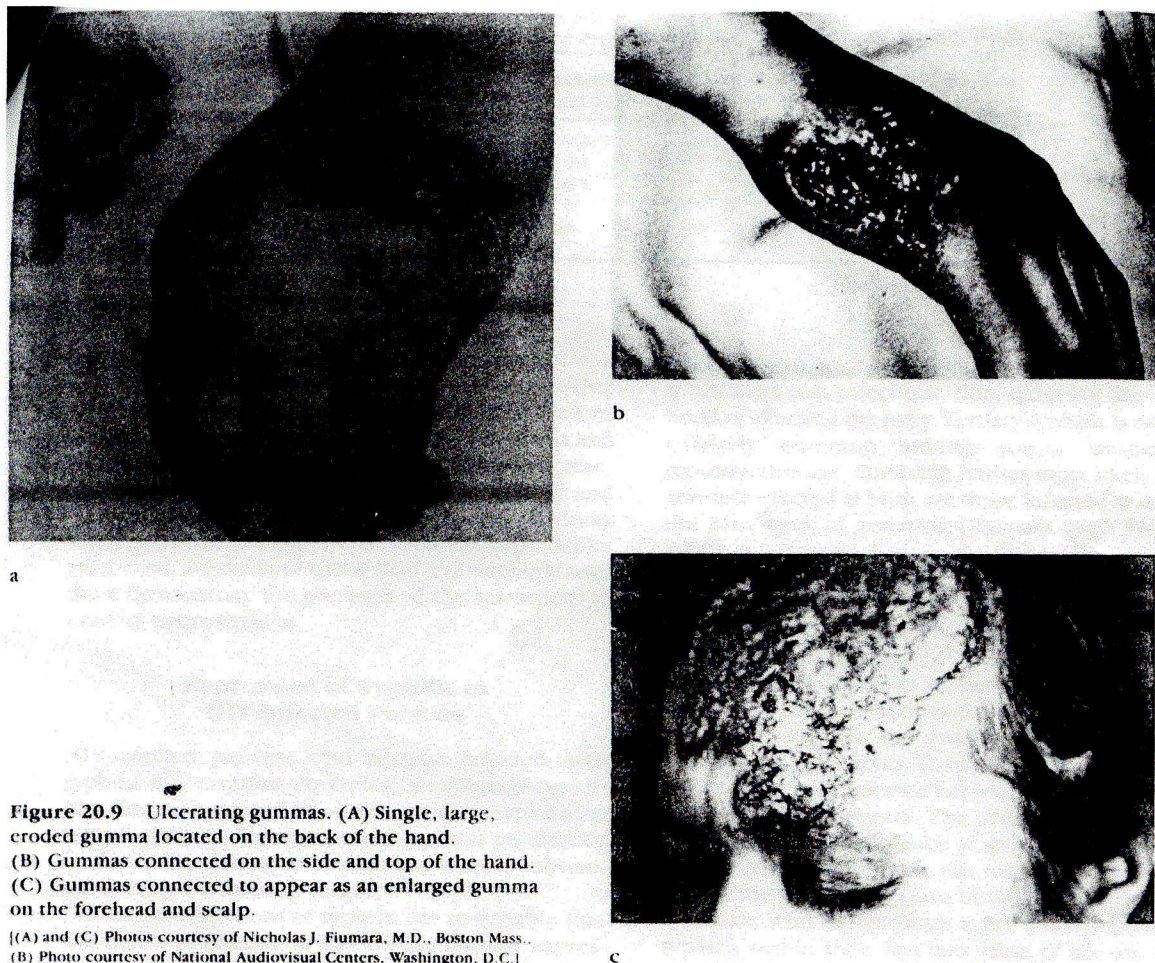


Figure 20.9 Ulcerating gummas. (A) Single, large, crusted gumma located on the back of the hand. (B) Gummas connected on the side and top of the hand. (C) Gummas connected to appear as an enlarged gumma on the forehead and scalp.

[(A) and (C) Photos courtesy of Nicholas J. Fiumara, M.D., Boston Mass., (B) Photo courtesy of National Audiovisual Centers, Washington, D.C.]

cranial vault, while the tibia is ten times more likely than any other long bone to be affected (Ortner and Putschar, 1985). These syphilitic bone changes are the result of either one or a combination of chronic, nongranulomatous inflammation or granulomatous (gummatous) processes (see Figure 2.6) (Sting, 1992; Ortner and Putschar, 1985). The “worm-eaten” appearance of bone is a trademark of venereal syphilis and is not usually found in yaws (Ortner and Putschar, 1985).

Endemic Syphilis

Endemic syphilis, non-venereal syphilis or treponarid is called *bejel* in Syria, *bishel* in Iraq, *belesh* in Arabia, *njovera* in Rhodesia and *dichushwa* in Bechuanaland (Ortner and Putschar, 1985; Hudson, 1957; Grin, 1953). It is also interesting to note that in the 18th and 19th centuries a group of diseases, including *Sibbens* from Scotland, *radesyge* from Scandinavia, *skerljevo* from Bosnia and *St. Paul's Bay Disease* from Canada are thought to be the extinct forms of non-venereal syphilis (Guthe & Willcox, 1967; Turner, 1959; Grin, 1953). These diseases were known as 'syphiloids' because they were very similar to venereal syphilis but differed in that they often affected children, were transmitted non-venereally and thrived in unhygienic conditions (Hackett, 1963; Hudson, 1957). Endemic syphilis is found throughout subtropical North Africa, Near East and temperate Asia, but surprisingly enough has never been reported to be prevalent in the Americas (Ortner and Putschar, 1985; Hudson, 1957; Grin, 1953). However, skeletal evidence from the American Midwest and Southeast suggest that endemic treponematosis was widespread during pre-contact times (Larsen, 1997; Powell, 1988; Cook, 1976).

At this point it is crucial to define and explain why the term 'endemic' syphilis is used. Hudson (1965:885) explains the use of the term 'endemic' as being "the antonym of sporadic, as nonvenereal is of venereal". In other words, the transmission of venereal syphilis is described as sporadic because it is passed from one individual to another, while non-venereal syphilis is transmitted widely and indiscriminately among children and is therefore referred to as endemic (Hudson, 1965).

The causative organism responsible for endemic syphilis is *Treponema pallidum* subspecies *endemecum* (Singh and Romanowski, 1999). Endemic Syphilis is “a contagious disease of children in primitive, rural environments; it is not related to sexual activity” (Hudson, 1958:7). This nonvenereal disease is transmitted from one child to another by physical contact, either as a result of play or living conditions and inevitably affects the better part of the community (Turner, 1959; Hudson, 1957). The spread of the infection can also be through indirect methods, including the use of common utensils, pipes, and sharing beds (Turner, 1959). The onset of non-venereal syphilis usually occurs before the age of 15 years (Grin, 1956). Endemic syphilis is “found in backward regions, under circumstances of poor environmental and personal hygiene, in both northern and southern hemispheres, in zones roughly intermediate between tropical and temperate” (Hudson, 1957:2).

Clinical Manifestations. The primary lesions are rarely if ever identified and oral mucous patches, commonly on the genitalia, the nipples of women, the mouth and lips, are usually the first evidence of the disease (Willcox, 1964; Turner, 1959). The secondary stage is often marked by papules or mucous patches¹ in the mouth and condylomata² may appear in the ano-genital area (see Figure2.7) (Grin, 1953). Skin lesions are also present and periostitis is common, resulting in swellings, deformities and nocturnal pains (Hudson, 1957). For the majority of cases, a long period of latency follows the healing of

¹ Mucous patches are shallow, relatively painless ulcerations located on the pillars of the tonsils, tongue, lips and buccal mucosa (Grin, 1953)

² Condylomata are raised, indurated lesions which are very similar to yaws papillomata and tend to occur in moist areas of the skin (Grin, 1953).

Figure 2.7:

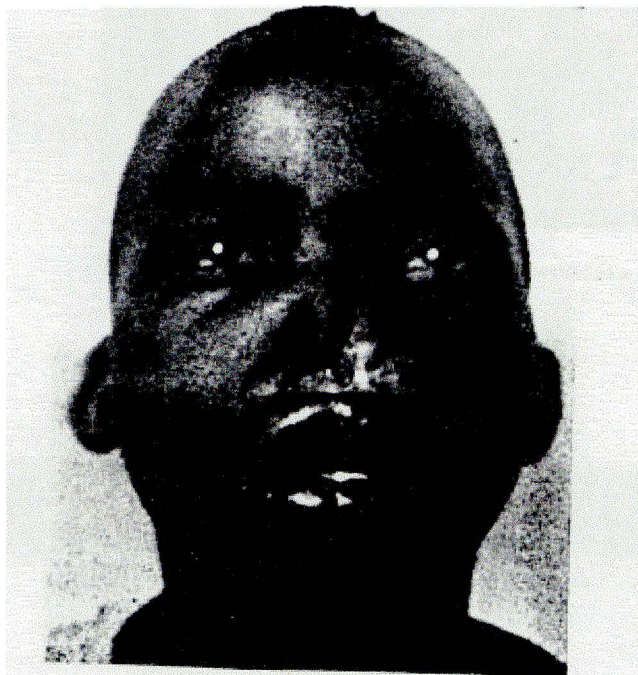
a) Mucous patches of endemic syphilis (from Grin, 1953:32)



b) endemic syphilis Bosnia mucous patches (from Willcox, 1964:268)



Figure 2.8: Gumma; Njovera of Southern Rhodesia (from Willcox, 1964: 272)



the secondary lesions, but tertiary lesions develop in some cases at a later date (Willcox, 1964). The tertiary stage does not occur for a few years and is characterized by destructive gummata of the skin, bones and erosive ulcers of the nasal/throat area (see Figure 2.8) (Willcox, 1964; Hudson, 1957). The gumma seem to be evoked by some sort of trauma or multiple exposure to the treponemes (Willcox, 1964). Unlike venereal syphilis, cardiovascular lesions and clinical neurological affects are very uncommon in endemic syphilis and congenital transmission is extremely rare (Willcox, 1964; Hudson, 1958).

One last point that must be stressed is the distribution of endemic syphilis within a group or population. One of the key features that separates endemic syphilis from venereal syphilis is the prevalence among children. According to Grin (1961), the average prevalence for children in a district in Sudan showing endemic syphilis is as high as 36% of the infected population (see Table 2.3). Table 2.3 also shows a prevalence of infection among children (below 15 years of age) ranging from 3% to 50% of all cases (Grin, 1961, 1956, 1935; Perine, *et al.*, 1984).

Table 2.3: Prevalence of Endemic Syphilis by Age-Group (from Grin, 1961:233)								
New Cases of Endemic Syphilis by Age-Group Among Out-Patients in Three Districts Of Upper Nile Province, Sudan, 1958-1959								
Dispensary	Adults				Children ¹		Total	
	Men		Women		No.	%		
	No.	%	No.	%	No.	%		
Eastern Nuer District (Nasir)								
Nasir	246	30.7	216	26.9	340	42.4	802	
Dago	70	47.0	61	40.9	18	12.1	149	
Ulang	155	42.8	142	39.2	65	18.0	362	
Sokau	189	27.3	156	22.5	348	50.2	693	
Kigille	144	37.5	140	36.5	100	26.0	384	
Nasir(Mission)	0	0	0	0	0	0	0	
Total	804	33.6	715	30.0	871	36.4	2 390	
Lau Nuer District(Akobo)								
Akobo	470	40.3	306	26.2	390	33.5	1 166	
Waat	200	33.5	170	28.8	227	37.7	597	
Ful Turuk	90	41.5	60	27.6	67	30.9	217	
Akobo (Mission)	19	48.8	10	25.6	10	25.6	39	
Total	779	38.7	546	27.1	694	34.5	2 019	
Pibor District								
Pibor	205	54.1	100	26.4	74	19.5	379	
Boma	20	33.9	20	33.9	19	32.2	59	
Agoi	83	48.0	85	49.1	5	2.9	173	
Pascaalla	55	48.7	34	30.1	24	21.2	113	
Gumurviz	186	43.9	179	42.2	59	13.9	424	
Pibor (Mission)	10	27.0	10	27.0	17	46.0	37	
Total	559	47.2	428	36.1	198	16.7	1 185	

¹Indicates children below 15 years.

Yaws

The Dutch and the German call it *Framboesia*, the French use the term *Pian*, while the Portuguese and Brazilians refer to it as *Bouba*, and finally, the Spanish and South American writers call it *Buba* (Turner, 1959; Grin, 1953). All these terms are synonyms for yaws, which is another endemic treponeme very similar to endemic syphilis in its characteristics and symptomology (Grin, 1957; Hudson, 1958).

The causative agent of yaws is *Treponema pallidum* subspecies *pertenue* (Singh and Romanowski, 1999). Yaws is found in tropical populations from around the world (Ortner and Putschar, 1985). As with endemic syphilis, yaws may be transmitted by direct or indirect contact and affects mostly children before the age of 15, or before puberty (Grin, 1957). In yaws, however, the lesions are more often on the lower legs and feet due to the trauma or cuts from vegetation on uncovered body parts (Grin, 1957). The most active lesions are seen in children and adolescents and even though the lesions are similar to congenital syphilis, it is not a disease of newborns (Ortner and Putschar, 1985).

Clinical Manifestations. The primary stage is demarcated by a primary papule, sometimes called the mother yaw, which appears at the point of entry of *T. Pertenue* (Grin, 1953). This 'mother yaw' usually shows itself after an incubation period of about 9-90 days (average 21 days) (Grin, 1953). By the time the primary papule is apparent the bacteria have already spread throughout the body via the bloodstream (Willcox, 1964). This papule is loaded with treponemes and will last between 3-6 months (Grin, 1953). The secondary phase consists of lesions that could appear anywhere on the body and often

heal spontaneously (see Figure 2.9) (Grin, 1953). Once these lesions disappear (about six months) the individual enters a latent stage which may last a lifetime or induce a relapse approximately every five years (Grin, 1953). The last stage of yaws usually begins several years after the initial infection and is very destructive, manifesting itself in about 10% of the cases (Grin, 1953). An individual suffering from yaws will often develop “boomerang leg” or bending of the tibia which is similar to the “saber tibia” seen in congenital syphilis (Ortner and Putschar, 1985). There is some destruction of facial and cranial bones but not as severe as that seen in venereal syphilis (see Figure 2.10) (Ortner and Putschar, 1985).

Figure 2.9: Secondary Yaws (from Willcox, 1964:279)

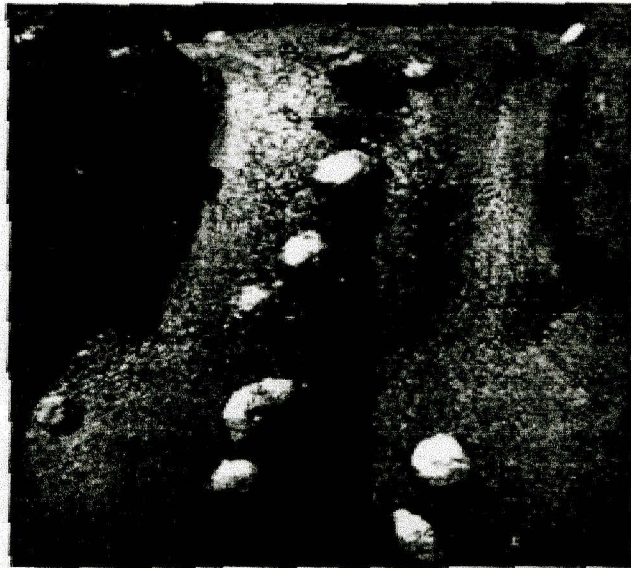


Figure 2.10: Yaws of Malaya: Gangosa
(from Willcox, 1964:286)



Pinta

The last endemic treponeme is pinta, which is caused by the organism *Treponema carateum*, which was discovered by Saenz *et al.*, in 1938 (Willcox, 1964; Singh and Romanowski, 1999). Prior to this discovery Pinta was believed to be a fungal infection (Turner, 1959). Other names for Pinta include; *mal de pinto* in Mexico, *carate* in Columbia and Venezuela, and, *azul* in Chile and Peru (Willcox, 1964; Grin, 1953).

Pinta is a non-venereal treponematosi s confined to the western hemisphere, more specifically the tropical Americas (Grin, 1953; Ortner and Putschar, 1985). Over the years the distribution of Pinta has diminished and, as of the early 1950's, was reported to

be restricted to Central America, Colombia, and southern Mexico (Grin, 1953). It is mainly a skin disorder and is the only treponeme that does not affect the skeleton (Ortner and Putschar, 1985). It also differs from yaws and endemic syphilis because it infects children and adults of all ages (Grin, 1953; Willcox, 1964). The most common mode of transmission is direct, prolonged skin-to-lesion contact and it is considered to be a disease of poor and underprivileged communities (Grin, 1953; Turner, 1959; Willcox, 1964). Pinta also offers some cross immunity to the other treponemal infections (Grin, 1953; Willcox, 1964; Kiple, 1993).

Clinical Manifestations. (see Figure 2.11) The incubation period is usually two to three weeks (Grin, 1953). The primary lesion is often found on an exposed part of the body, i.e. leg, back of the hands, forearm, and consists of a papule or itchy erythematous plaque (Grin, 1953; Turner, 1959). The secondary lesions, called 'pintides' appear four to ten months after the onset of the infection and vary in colour depending on the degree of skin involvement; the common colours include blue, white and violet or a combination of the three (Turner, 1959; Grin, 1953). The tertiary stage is marked by "pigmentary changes, from dyschromic treponeme-containing lesions to achromic treponeme-free lesions" (Grin, 1953:18). Occasionally juxta-articular nodes appear but the bones are not affected and gangosa has not been observed (Turner, 1959; Willcox, 1964). Pinta is generally not a physically debilitating disease like syphilis; however it may cause social/mental health problems because the afflicted feel stigmatized and are sometimes rejected for employment (Willcox, 1964).

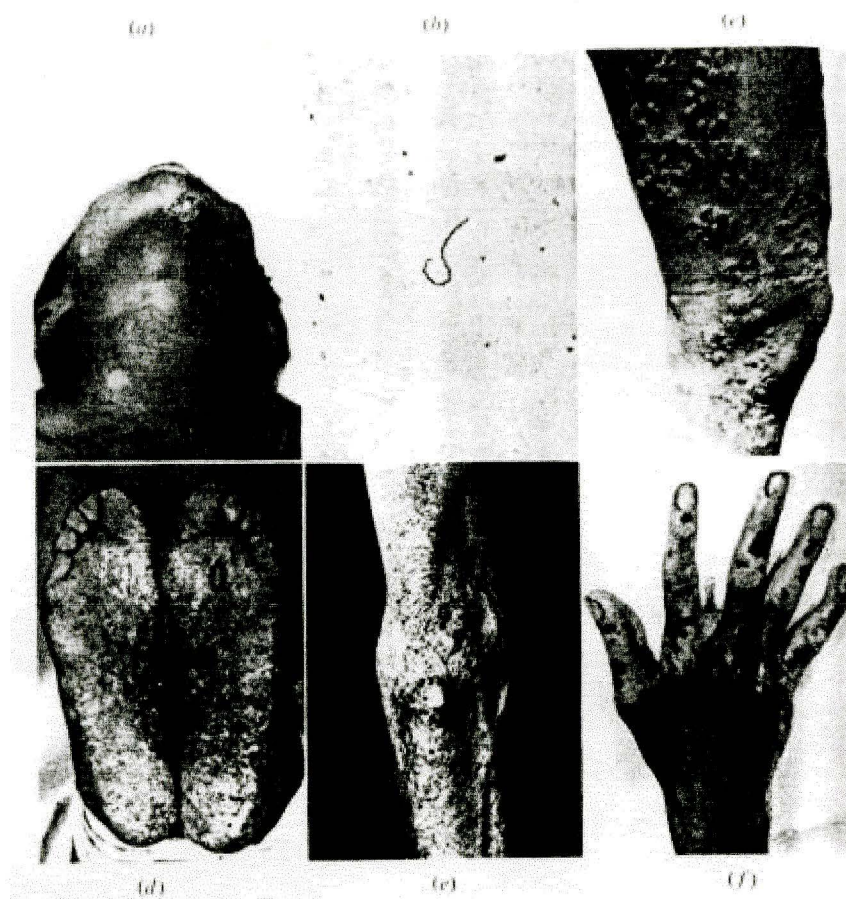


Figure 2.11 : Various Stages of Pinta (from Willcox, 1964:292).

- | | |
|-----------------------------|--------------------------|
| a) Primary pintide | d) Hyperderatosis |
| b) T. Carateum | e) Juxta-articular nodes |
| c) Extensive pintide of leg | f) Pigmentary changes |

Conclusion

Using published sources, this chapter highlighted the major events that occurred during the St. Paul's Bay disease outbreak. It also laid down the fundamentals of the treponemal diseases, necessary for the comparisons and analysis of the material needed to identify the St Paul's Bay disease. I now turn to a consideration of the primary source documentation for the outbreak of SPBD before evaluating the evidence in support or against the diagnosis of venereal syphilis.

CHAPTER III

Materials

The historical nature of this thesis dictates that extensive literature searches and archival research be done to obtain the intimate details and facts related to St. Paul's Bay disease. The primary research strategy for this study involved locating all relevant primary documents and published information on St. Paul's Bay disease. Since SPBD is thought to be a treponemal infection, my research is also focussed on historical and contemporary views on the clinical, epidemiologic and environmental features of the treponemes.

My research began with an extensive literature review of all topics related not only to sexually transmitted diseases but more specifically to syphilis in Lower Canada. These searches covered a wide array of issues related to syphilis, including diagnostic methods, the manifestations of syphilis, the identification and differentiation of the various treponemes, and more specifically the "St. Paul's Bay disease" outbreak itself. Several types of information sources are available for studying SPBD, namely physical records or human skeletal evidence, and perhaps most promising, written records.

Archival Research

In order to collect and analyse the relevant materials for this study, two field trips were made during the summer of 2000. Extensive archival research was conducted at the National Archives of Canada in Ottawa and at the National Archives of Quebec in Quebec City, which yielded many pertinent documents.

I also had the opportunity to travel to the town of St. Paul's Bay in hopes of uncovering more information about the outbreak. Unfortunately, due to unforeseen circumstances, both the public library and the priest at St. Paul's Bay were inaccessible during my visit. Despite this bad luck I was determined to get some information and I therefore decided to visit the two bookstores in town and to informally interview several of the townspeople. Surprisingly, none of the people that I spoke with had ever heard of "St. Paul's Bay disease", and furthermore there were only a few pages in one of the books in the local book stores that mentioned the disease, along with the Spanish flu of 1918. This account by Néréé (1956) is for the most part a summary of Heagerty's (1928) article on "St. Paul's Bay Disease (Mal de la Baie)" found in "Four Centuries of Medical History in Canada".

Archival research is a necessity when doing this type of research because it allows the researcher to obtain the primary sources with which to verify and re-interpret the published information. For this project it also enabled me to obtain information that is not available in the secondary sources, such as the "Etat de Guérison", as well as some vivid descriptions of SPBD. It is this primary information that offers an abundance of new data for examining the epidemiology of SPBD. I now turn to a description and evaluation of primary sources consulted for this thesis.

Primary Sources on SPBD

Most of the primary source material with respect to SPBD is found in government council minutes in reports written by politicians and by the medical professionals of the 18th century (including a book entitled “Practical Observations on Venereal Complaints” written by Dr. Franz Sweddiaur) , in the priest records, and in two circulaires, one sent out by the Governor Henry Hope and another by Bishop Briand. These sources are found at the National Archives of Canada (NAC), the National Library of Canada (NLC) and the National Archives of Quebec (NAQ) and were used to gather information on St. Paul’s Bay Disease and sexually transmitted diseases from the 18th century to the present. They are discussed in great detail in the next section. All these materials are summarized and assessed for their quality, credibility, and relevance to this study.

The Legislative Council and the Whole Council Minutes

The documents in this category were recovered mostly from the National Archives of Canada (NAC) (NAC, RG 4, B43, Vol. 1 & 2) and are duplicated in part at the National Archives of Quebec in Quebec City (NAQ, P1000; D2275; ZQ75). The information in the minutes is centred around two main events. The first is Bowman’s claim against the Province of Quebec in 1786 for the cost of his services incurred during his attempt to treat and cure St. Paul’s Bay disease. It is contained in a “Report of the Committee on M. James Bowman’s Claim Upon Government”, which was presented to the Legislative Council of the province of Canada (NAC, RG 4, B43, Vol. 1). The second event is the claim made in 1791 by Whitney Bowman, Dr. James Bowman’s father, to the Province of

Quebec. After James Bowman's death in 1787, Whitney Bowman travelled to Quebec to settle his son's claim with the government. This claim was inspected by "A Sub-Committee to a Committee of the Whole Council, on the claim made upon Government by the Representatives of the Late Doctor Bowman" (NAC, RG 4, B43, Vol.# 1). These committees included politicians, lay people and doctors.

Dr. James Bowman was born in Ireland and came to Quebec sometime in the early 1780's as the major-surgeon for the English army (Dictionnaire biographic du Canada, 1966). He became a well respected doctor at l'Hotel Dieu in 1784 and was the fourth person to be assigned to the St. Paul's Bay disease outbreak on the 18th of April in 1785 (Dictionnaire biographic du Canada, 1966). The Lieutenant Governor, Henry Hamilton, assigned him to this position and states in his letter to him:

You will in consequence of the authority hereby given you proceed upon progress through the several parishes of this Government with the design of administering your advice and distributing the medicines necessary for the effectual cure of the disorder commonly know by the name of The St. Paul's Bay Distemper.

You will keep an exact diary of your travels, and a correct list of the parishes you shall have visited with a faithful return of the persons who shall undergo inspection, distinguishing their age, sex and condition, stating the progress of the disease of each and procuring (if practicable) a certificate from the respective Curates, of the number whose cure shall have been undertaken by You....

You will endeavour by all means to conciliate the good will of the clergy, who may be at all times so instrumental in aiding your endeavours....

You will preserve copies of these notes that they may be published upon your return for the benefit of the province at large.

You will collect materials for composing a complete history of the disorder, to be published when convenient.

The medicines, and the extra-expenses of carriages, postage, stationary, and occasional charges incident to the situation of paupers, the journey, or to the faithful discharge of the trust reposed in you, shall be paid on your having completed the object of your expedition with the sum of two hundred guineas, exclusive of those expenses and charges (NAC, RG 4 B43, vol.1:240).

Most of the information in the council minutes relates to Dr. James Bowman's claims against the government for his services in reporting and treating St. Paul's Bay disease. There was considerable controversy surrounding Dr. Bowman's claim because it was originally thought that the cost for his services would only be a trivial few hundred pounds. However, the final total was over two thousand pounds and included the cost of his services and travels, as well as the cost of the medication provided to the people of Lower Canada. According to Bowman, he was entitled to the cost of medication, which followed the original terms of his contract with the government. Government officials disagreed and furthermore suspected that he embellished the numbers of infected individuals and the amount of medication that he used. In 1786, Dr. James Bowman presented the following data to the government of the Province of Quebec:

1785, visited.....	5 801 people
1786, visited.....	4 606 people
Total supplied with medicine.....	6 440 people
Of whom returned as cured in 1786.....	807 people

(NAC, RG 4 B43; Heagerty, 1928:141)

In order to assess Bowman's claim properly, the council needed a detailed account of the dreaded "Malbaie disease" and the events leading up to and after Dr. Bowman's involvement. The council was required to gather most of the correspondence between

Bowman and government officials and various reports concerning SPBD from doctors such as Dr. Robert Jones and Dr. Philippe Badelart. Finally, letters written by the priests from parishes afflicted with the disease confirming Dr. Bowman's presence and provision of treatment, were gathered. These will be discussed in greater detail in their respective sections.

The documents reveal that Dr. James Bowman's claim was never completely settled before he died on the 20th of June, 1787. The committee recommended that the Province of Quebec pay Bowman for all of his services, except for the medication used, and the five shillings per person cured until such time as he provides documented proof of the latter. Bowman's account was doubted because it was alleged that he "included upwards of two hundred boxes of pills sent to Niagara, Chaleur Bay, and other places settled by Loyalists, not visited by Mr. Bowman, and where there was no evidence of the St. Paul's Bay disorder having existed,..." (NAC, RG 4 B43, vol. 1:p.241). The records also indicate that Bowman had some of the priests send in their letters of confirmation before he actually sent the medication, based on the promise that he would do so.

Whitney Bowman, Dr. Bowman's father, came to Canada to settle the account in 1791. He hired a lawyer by the name of Mr. Ogden to represent his son's case. It is interesting to note that the Province of Quebec outlined three basic guidelines for the committee's decision after the trial was complete. They are:

1. Whether a contagious disease was prevalent in the Province requiring an extraordinary interposition of Government?
2. Whether Doctor Bowman was employed by Government to check the progress of the contagion? and
3. Whether the demand made is just as a fair quantum merit for his services?
(NAC, RG 4 B43 vol.1:1)

It was only five years since James Bowman tried to settle his claim and now the government representatives were questioning whether or not the disease ever existed and whether he actually worked for the government! Fortunately, Mr. Ogden managed to gather all the documents he required to make his case. Despite his efforts, he still attained the same outcome as did the first attempt in 1786 by Dr. Bowman. Bowman received only 825 pounds of the 2 300 pounds he felt he deserved. Could this be because two of the committee members, namely Mr. Adam Mabane and Mr. Hugh Finlay, opposed him and were present at both trials? It is beyond the scope of this thesis to delve into the personal vendettas or the political agendas of that time. However, it is important to note that Mabane had a lot of political power and that he and his entourage did not like Dr. Bowman. This was mainly because Bowman was becoming very popular and getting much “credit with the King’s Physicians. The Mabanites look very sour about it & gather in knots” (Allsopp, 1786; as cited by Lessard, 1989:66). A full account of the political and historical situation can be found in Lessard’s (1989:51-74) dissertation.

These records provide a detailed history of the events and important issues surrounding the St. Paul’s Bay outbreak. They provide proof that St. Paul’s Bay Disease did in fact exist in Lower Canada and did warrant the attention it received. Even though

Dr. Bowman's honesty with respect to the money due for the medicines is in doubt, what cannot be doubted is the fact that the Legislative Council of the Province of Quebec, despite its attempt to dismiss SPBD, had to concede and agree that it was a devastating disease requiring the government's attention. Furthermore, it was determined by the members of both committees, in 1786 and 1791, that the "Etat de guérison" (priest reports) would be used as a method to check and to pay Dr. Bowman for his services. Therefore, this gives credibility to the priests' reports which are, by and large, the basis of my analysis. These documents play an important role because they provide an account of the outbreak from its beginning in 1774, they identify the problems with Bowman's claims and verify some of the other secondary sources, including Lessard (1989), Heagerty (1928), Riddell (1924), and Cochran (1841).

Medical Professionals of the 18th Century

Letters and reports written by 18th century medical professionals include some of the most descriptive and informative material concerning SPBD. These documents not only help piece together the events that occurred during the years of the epidemic but also provide detailed descriptions concerning the symptoms, treatment, method of transmission and general distribution of the SPBD. The National Archives of Canada yielded a letter written by some of the leading physicians of the time, namely George Selby, Charles Blake, Robert Sym and J. Jobert, who offered their medical opinions (NAC, RG B 43, vol. 2). The Archives also contained the remarks and publications made by Philippe Louis-Francois Badelart, James Bowman, Robert Jones and Charles Blake (NAC,

RG B 43, vol. 1). Finally, a book written by Dr. Franz Sweddiaur (1796) concerning 'venereal complaints' is located at the National Library of Canada.

The first letter to be discussed was written on the 5th of September, 1782, by Charles Blake, the Surgeon to the Garrison of Montreal, and by three other surgeons (Robert Sym, George Selby, J. Jobert). All were well respected physicians in Montreal and Quebec City who presented this letter to the Grand Jury at Montreal. The purpose of their correspondence was to alert the government that SPBD was out of control in most of the province and that action had to be taken in order to save the people. They wrote:

At the request of the gentlemen of the Grand Jury, we whose names are underwritten, beg leave, with all humility and submission, to lay before them a disease that seems peculiar to this province, which every one must have heard of, and that big with consequences not only to render the people diseased and contemptible, but must, in the end, tend to destroy the human race. ...Let it not be said that, in our time, a disease is rapidly gaining ground, not only to destroy our fellow creatures, but to render the offspring of those infected, disordered and degenerated... This disease to be represented, by some is called Mal-Anglais, by others Justacrué, by others the Sibbins, but more generally the disease of St. Paul's Bay.

Without entering into a confusion of names, we would wish to call it by its true name, the Pox, which will render the disease contemptible, and would awe the inhabitants, or those afflicted, to search for a cure, or cause them to be pointed at as those infected with a diseases that is infamous....

The letter goes on to describe the disorder and the incredible rate at which it was contracted:

The lips, throat and glandular parts are generally first affected with ulcerations; as the lips by nature are deprived of the true skin, by drinking from the same cup in which the minutest atom of the virus remains from the diseased person, and being absorbed by the healthy one, the disease is immediately contracted.... A disease so easily caught, how rapidly must it extend. After some times the bones are

attacked, and it's frequently seen that the spongy bones of the nose, from their nearness to the throat, are frequently broken down, and every part of the face taken away to the basis of the skull. Spectacles too shocking to human nature,....

Since every connecting person in this country is liable to receive unknowingly the infection from this horrid disorder, we would think it a part of humanity in the grand jury to address His Excellency and the Council, that through their wisdom, such a general method may immediately be taken as is most likely to put a stop to this most alarming complaint. (NAC, RG 4 B43, Vol. 2; Cochran, 1841:12)

It is interesting to note that even though this letter was written in 1782, no serious steps were taken to eradicate the disease until 1785. However, the Lieutenant Governor did order Philippe Badelart, a physician, to look into the matter and to treat individuals affected by this horrible disease.

Philippe-Louis-François Badelart (Badelard)

Philippe-Louis-François Badelard came to Canada in 1757 where he settled in Quebec City and worked as a military physician. He was ordered by Lieutenant Governor Haldimand in 1784 to travel to several parishes to treat and report back to the government on the progress of SPBD. Dr. Badelard was the first to report and publish the description and treatment of the SPBD in the Gazette de Québec on the 29th of July 1784 (Gauvreau, 1931:20). His report in the Gazette (newspaper) identifies the disease as distinct and unmistakable from any other disease and, furthermore that any treatment with mercury would cure the infected individual. Badelard did not name the disease, but believed that it was in the best interest of the people not to do so because of its resemblance to syphilis and because of the shame attached to the disease.

James Bowman

Unfortunately, most of Dr. James Bowman's reports and notes have been lost and are now nowhere to be found. Documents that have been found include the general returns of the number of people infected with SPBD, a few letters between Bowman and other physicians or politicians, and a leaflet he distributed containing the directions for the proper use of the medications. The general returns of the number of infected come from his first trip in 1785 and list the parishes he visited with the number of individuals infected by the disease (see Table 3.2). The total number of infected individuals identified in his first trip is 5, 801 and 4, 606 in the second tour (Cochran, 1841; NAC, RG 4 B43, vol.2). This list makes it possible to map the distribution of the outbreak across the province (see Figure 4.1).

It may seem as though the number of infected people decreased between the two tours, but this is because Dr. Bowman did not visit all the parishes during the second tour. According to Lessard (1989), if one uses the numbers from Bowman's 1786 tour (4, 606 infected individuals) and add to this total the number from the missing parishes from the 1785 tour, the number of infected people would have been closer to 6, 352 infected individuals. In other words, the epidemic was spreading and escalating in severity.

TABLE 3.2: GENERAL RETURN OF PERSONS INFECTED WITH THE SPBD IN THE PROVINCE OF QUEBEC, BY DR. BOWMAN IN 1785 and 1786 (RG 4 B43, VOL.1:1)

PARISHES	TOTAL		PARISHES	TOTAL	
	1785	1786		1785	1786
Quebec	6		Varennes	64	
St. John, Island of Orleans	5		Bouchervilles	112	120
St. Lawrence, Isl. of Orleans	12		Longueil	29	
Chateau Richer	2		La Prairie	34	
St. Feriole	7		Blaisendu	116	128
St. Thomas	118	183	St. Philipe et La Tortue	178	238
L'Islet	63		La Chine	14	14
St. Rock	15	22	Chateaugai	30	
St. Ann	28		Pointe Claire	7	26
River Well	64		Ile Perrault et Les Cedres	26	
Kamouraska	34		Vadreuil	106	120
St. Paul's Bay and Little River	328	317	St. Genevieve	81	
Les Eboulements	39		La Riviere du Chene & Blainville	96	
Ile aux Coudres	9		St. Martin et St. Rose	107	133
Mal Bay	9	23	St. Vincent	54	
St. John	72		Terrebonne	55	
St. Francois et St. Pierre	120		La Chenaie	24	
St. Valier	45		St. Francois de Sales	43	
St. Charles et St. Gervais	231	219	A des Prairies et Sault	53	
St. Michel	47		St. Laurent	17	
Point Levi	23		Montreal	24	
St. Joseph et St. Francois	90		Point aux trembles	39	
St. Marie	58		Masconche	190	190
St. Henri	78		St. Jacques et St. Roch	153	
St. Nicholas	29		L'Assomption	83	
St. Antoine	96		Repentigny	140	
St. Croix et L'abeniere	58		St. Sulphice	65	
St. Jean, St. Pierre et Gentilly	25		La Valtrie, La Norrault	62	
Belancourt	31		Berthier	248	
Nicolette et La Baie du Fevre	58		St. Cuthbert	135	149
St. Francois du lac	6	15	Maskinonge	40	
Yamaska	228	228	Rivier du Loup	133	
Sorel et Ile du pas	56		Yamachiche	64	
St. Ours	163	161	Trois Riviere et Cape Madelaine	13	
St. Denis	43		Point du lac	7	
St. Antoine	53		St. Genevieve et St. Stanier pas	17	
St. Charles	156	194	St. Anne et Grondine	45	
Beloil	84		Deschambault	70	
Chambly	161		Cap Sante	28	
Point a Olivier	89		Point aux tremles et Les Ecureils	4	
St. Hyacenthe	55		Cape St. Ignace	0	
Contre Coeur	24				
Vercher	77		TOTAL	5801	incomplete

The leaflet entitled, “Direction pour la Guérison du Mal de la Baie St. Paul” was written by Bowman in 1785 and includes his description of the symptoms of SPBD as well as instructions to the priests on how to administer the medications (Figure 3.1). I judge Dr. James Bowman’s reports to be credible and his numbers of infected individuals reliable as they are very close to those contained in the priests’s reports¹ (see Table 3.3). Dr. Bowman’s ‘General Return’ for his second tour in 1786 reveals that 1, 997 individuals were afflicted by SPBD. Table 3.3 indicates that the ‘Etat de Guérison’ or the priests’s reports yield 1, 999 individuals infected with SPBD for the same parishes as Bowman’s second tour. The great similarity between the priests’ reports and Bowman’s returns signifies that Dr. Bowman did not embellish the number of infected. This validates the ‘General Return’ made by Bowman.

¹Dr. Bowman’s number of infected individuals varies slightly from the priests’ “Etat de guérison” because their returns correspond with Bowman’s second tour of 1786. The majority of Bowman’s account comes from his first tour in 1785. Dr. Bowman’s accounts of his second tour are incomplete and, for the most part, nowhere to be found.

Figure 3.1: The directions that Bowman included with the medication. (NLC, mic.f. cc-4, No. 55035)

D I R E C T I O N

P O U R L A G U E R I S O N D U

M A L D E L A B A I E S ' P A U L .

S Y M P T O M E S .

LES premières indications de ce funeste Mal, se manifestent communément, par de petits ulcères sur les lèvres, la langue, l'intérieur de la bouche et les parties secrètes. Ce sont de petites pustules, remplies d'une matière blanchâtre et purulente, qui renferment un poison si subtil, que la plus petite portion est capable de communiquer l'infection; boire dans un verre, fumer avec une pipe infectée de cette matière vénéneuse, c'en est assez pour faire naître sur les lèvres une petite ampoule remplie de cette même matière, qui venant à se dégorger, dilate la plaie, corode les chairs circonvoisines et forme un ulcère plus grand.

La lingée, les draps, les couvertures, les habits, &c. peuvent contenir assez de cette matière pour communiquer la contagion.

Il y a des tempéramens qui absorbent le poison et les ulcères paroissent guéris: mais ils reparoissent bientôt; et alors, le mal est à son second période.

De plus grands ulcères se forment à la bouche, à la gorge, aux parties et au fondement. Les glandes du gosier, des aisselles, de l'aisselle, sont enflamées, et déchirées, quelquefois, du pus; souvent elles deviennent des tumeurs dures et insensibles, qui changent de place en les touchant. Bientôt les douleurs se font sentir, à la tête, aux épaules, aux bras, aux mains, aux cuisses, aux jambes, aux pieds. Pendant ce temps, le malade croit que ce sont frus ou qui sont infectés. Ces maux augmentent, quelquefois, par l'exercice, dans les temps humides, et au lit, lorsqu'on commence à s'y échauffer, et diminuent de même vers le matin, lorsque la transpiration survient.

La troisième degré de la maladie peut se reconnaître à des croûtes galeuses sur la peau, qui se montrent et disparaissent, tour-à-tour. Bientôt les os du nez se pourrissent, ainsi que les palais, les dents, les gencives; survenant des boîtes, sur le crâne, sur les clavicales, aux os des jambes, aux bras, et aux doigts des mains. On voit des ulcères sur tout le corps, qui, après avoir disparus, reviennent. Enfin, des douleurs de côté et de poitrine, la difficulté de respirer, la toux, le défaut d'appétit, la chute des cheveux, la perte de la vue, de l'ouïe, de l'odorat, sont les précurseurs de la mort.

Au reste, il ne faut pas s'y tromper: car quelquefois, les premières apparences du mal se montrent par les symptômes du second et même du troisième degré.

Les symptômes de douleur dans les membres et dans les ulcères même, se feront sentir souvent plus sensiblement après quelques jours que l'on aura fait usage des remèdes.

Les habits des infectés seront jetés dans une lessive chaude; autrement ils pourroient communiquer l'infection.

R È G I M E Q U ' O N O B S E R V E R A .

LA Nourriture consistera, en bouillons de viande fraîche, lait, pain, orge, ris, bouillie de farine ou d'avoine, patates, lentilles, pois, fèves, œufs frais. On pourra composer et mêler tous ces différens aliments, comme on voudra. On s'abstiendra de toute autre nourriture.

Le breuvage sera, petit lait, eau d'orge, grasse, eau panée, lait avec de l'est, infusion de graine de lin adoucie avec du sucre d'érable, ou sucre commun, au goût du malade. On pourra suivre la fantasia, dans l'usage des aliments et bouillons sus-nommés.

I N S T R U C T I O N S S U R L A P R I S E D E S R E M E D E S .

LES Enfants qui tiennent se trouveront guéris, quand la nourrice aura pris les pilules, telles qu'elles vont être prescrites.

- Depuis l'âge de dix-huit mois jusqu'à trois ans, prendre une des pilules de la boîte marquée - - - N^o 1.
- Depuis trois ans jusqu'à six, une pilule - - - N^o 2.
- Depuis six ans jusqu'à dix, une ditto - - - N^o 3.
- Depuis dix ans jusqu'à seize, une ditto - - - N^o 4.
- Depuis seize ans jusqu'à vingt, une ditto - - - N^o 5.
- Depuis vingt et au dessus, une ditto - - - N^o 6.

C'est toujours le soir, en se couchant, qu'on doit prendre les pilules.

On ne doit pas redouter ces médicamens pour les enfans, ou autres qui seroient incommodés des vers; parce que ces drogues ont la propriété de les détruire.

Il faut les prendre, pendant quinze jours au moins, après que tous les symptômes de la maladie ont disparus.

Si après avoir commencé à prendre les pilules dans les proportions mentionnées ci-dessus, on ne s'apperoit pas d'un changement favorable dans le cours de deux semaines, alors on augmentera les doses, comme suit:

Dans la troisième semaine, au lieu de ne prendre qu'une pilule, on en prendra deux; et si l'effet n'en est pas encore sensible, dans le cours de cette troisième semaine, on en prendra trois dans la quatrième: mais jamais on ne doit excéder ce nombre, dans les semaines suivantes.

R è g l e g é n é r a l e .

SI Le mal de bouche survient, (et les pilules peuvent l'occasionner) ou le rhume, la toux, un devoiement, ou mal de ventre et d'estomac, ou le flux périodique aux femmes, on suspendra absolument tout usage des pilules; mais aussitôt ces accidents passés, on en reprendra le même nombre qu'on prenoit auparavant; c'est à dire, une dans les deux premières semaines, deux dans la troisième, et trois dans la quatrième.

Le malade évitera de se mouiller les pieds, de rester à la pluie, ou au mauvais temps, de sortir la nuit, et de s'enrhumer. La négligence sur ces articles exposera les malades à des maux d'estomac, au mal de ventre, au devoiement. Si néanmoins ces accidents surviennent, on prendra une des pilules jaunes, marquée sur les boîtes en rouge.

- A. N^o 1.
- A. N^o 2.
- A. N^o 3.
- A. N^o 4.
- A. N^o 5.
- A. N^o 6.

Lesquels numeros correspondent aux âges respectifs des malades spécifiés par les numeros ci-dessus. Ces pilules jaunes seront administrées pendant la durée des maux d'estomac, &c. de deux en deux heures, jusqu'à ce que les coliques soient passées, ou jusqu'à ce que le malade s'endorme.

Si un enfant qui tète est affligé d'un devoiement qui l'affoiblit, la nourrice cessera de prendre les pilules, jusqu'à ce que le devoiement cesse, et en se couchant elle prendra une des pilules A. N^o 6.

Si le malade se trouveoit débile et affoibli par la durée du mal, ou par la fatigue du régime et des remèdes, ou que les symptômes ne disparoissent pas, alors il prendra de la poudre marquée B. dans du lait. La dose sera selon l'âge du malade, depuis une cuillerée à café, jusqu'à huit, comme l'état de la poitrine, de l'estomac, ou de la respiration, le permettra. Cette règle suffit, parce qu'il n'y a rien à craindre de l'usage modéré de cette poudre.

DANS toutes les circonstances, le repos est préférable au travail, et à l'exercice.

QUAND la guérison sera complète, on s'abstiendra, pendant quelques semaines, de boissons fortes, d'ail, d'oignon, de viandes salées, ou épicées, et d'alimens trop gras.

PENDANT le traitement, le comment des sexes est au dernier point nuisible, et empêcheroit absolument la guérison.

LA propriété est aussi recommandable que l'attention au régime est nécessaire.

N. B. On prendra grand soin de ne pas égarer les couvertures des boîtes.

COMME la Législature s'intéresse à la cure de cette maladie, qu'elle fait soigner les malades gratis dans tous les endroits où ils se trouvent; et qu'il est important pour toute la province, d'exterminer ce fléau; on offre, que ceux qui en sont affligés, ne refuseront pas de se déclarer. Au reste, le secret, s'ils l'exigent, sera inviolable, et on suivra, pour le garder, autant qu'il sera possible, tous les moyens de prudence que les malades eux-mêmes voudront suggérer; mais, si une mauvaise-honte les retient encore, ne seroit il pas du bien de la province en général, et de chaque individu en particulier, de les décider avec prudence?

Table 3.3 COMPARISON BETWEEN BOWMAN'S 'GENERAL RETURNS' & THE PRIESTS "ETAT DE GUERISON" OF 1786 (RG 4 B43, VOL.1)

REF. #	PARISHES	JAMES BOWMAN'S GENERAL RETURNS OF INFECTED		Priest Total Infected ³
		IN 1785 ¹	IN 1786 ²	
<i>DISTRICT OF QUEBEC</i>				
Q1	Mal Bay	9	23	23
Q2	Les Eboulements	39		64
Q3	Ile aux Coudres	9		9
Q4,Q5	St. Paul's Bay(incl. Little River)	328	317	317
Q15	St. Croix et L'obtinere	58		58
Q20	St. Henri	78		83
Q21	Point Levi	23		23
Q23	St. Charles et St. Gervais	231	219	217
Q24	St. Michel	47		14
Q25	St. Francois and St. Pierre	120		101
Q26	St. Thomas	118	183	199
Q27	Cape St. Ignace	0		5
Q28	L'Islet	63		41
Q30	St. Rock	15	22	22
Q32	River Well(Ouelle)	64		63
Q33	Kamouraska	34		36
<i>DISTRICT OF TROIS-RIVIERE</i>				
T7	Yamaska	228	228	227
T8	St. Francois du lac	6	15	15
T9	Nicolette et La Baie du Fevre	58		63
T10	Becancourt	31		31
T11	St. Jean, St. Pierre et Gentilly	25		25
<i>DISTRICT OF MONTREAL</i>				
M1	St. Cuthbert	135	149	123
M2	Berthier	248		248
M25	La Prairie	34		56
M26	St. Philipe et La Tortue	178	238	247
M27	Longueil	29		29
M28	Bouchervilles	112	120	112
M30	Vercher	77		83
M32	Sorel et Ile Dupas	56		50
M33	St. Ours	163	161	163
M36	St. Charles	156	194	194
M37	Beloil	84		215
M39	Chambly	161		184
M40	Blaissendie	116	128	141
	TOTAL	3133	1997	3481

¹ From General Return, RG 4 B43, vol. 1 and at the NAQ, D2275:22-26.

² From Cochran, 1841:143

³ From "Etat de Guerison", RG 4 B43, vol. 1.

Robert Jones

Dr. Robert Jones published an article “The Distemper Generally known by the Name of the MolBay Disease, including a Description of its Symptoms and Method of Cure...” in 1786. Robert Jones was a well respected physician at l’Hotel Dieu in Montreal and wrote this article for the Captain-General and Governor-in-Chief of British America, Lord Dorchester. In his article he describes the symptoms and the progression of the disease. Dr. Jones was one of the few doctors of that time that did not believe St. Paul’s Bay Disease to be a ‘venereal distemper’ but rather considered it to be a separate disease known as “Molbay disease”. He compares the two diseases and puts forth his evidence which he argues distinguishes the two diseases “from each other in their cause, mode of infection and method of cure” (Jones, 1786:10). This document is invaluable because it not only provides another perspective and diagnosis of the St. Paul’s Bay disease but it is rich with information and contains specific examples of modes of contagion.

Charles Blake

Charles Blake, Esquire, was the surgeon for the 34th regiment and addressed a letter to the Committee of Council on Police and Population with respect to SPBD some time in 1786 (Cochran, 1841; NAC, RG 4 B43, vol.1). Charles Blake’s letter provides a brief summary of the disease:

In the year 1776, His Excellency Genl. Carleton, (now Lord Dorchester) had many reports of the prevalence of this disease in most parts of Canada; and that there was a specific virus in it which made it differ from most diseases known. It was supposed from the similarity of its symptoms to be the same disease as that which was known in the Highlands of Scotland under the name of Sibbans or Sivvans:

The inhabitants of St. Paul's Bay declared it was received from a Scotch Pilot who lived a winter among them; and from thence some called it the Mal Ecosais; In other parts of Canada the people have conjectured that it was brought into the country many years ago, by a set of Indians, who went by the name of Luesticreux.

Blake also touches on the shame associated with the disease, as he recalls, "I have been told by a Priest that some have refused to confess that they had the disease...", and then goes on to give his diagnosis of SPBD: "This is nothing more than a confirmed Syphilis, showing itself in different ways in different parts of the body..." (Cochran, 1841:150). The letter also identifies some of the factors that increase the disease's contagious nature:

The Habits of the Canadians facilitate its communication in various ways; they use the same cup, drink from the same bucket, often borrow one another's pipe to smoke, chew their infant's food and spit it into their mouths... and the lower class are generally regardless of cleanliness: All these circumstances help to communicate and keep up the disease which may take effect any where that the skin happens to be broken (Cochran, 1841:151).

This article helps to reinforce the severity of the disease and the need for constant action against the spread of the disease. Charles Blake's letter contains ample information concerning the St. Paul's Bay outbreak and is used to reinforce the other medical opinions of that time.

Dr. Franz Sweddiar's Book

Dr. Franz Sweddiar wrote a book entitled "Practical Observations on Venereal Complaints"(3rd edition) in 1796. This book also contains a chapter on an "Account of a New Venereal Disease which lately appeared at Canada". Swediaur describes the symptoms and method of cure of the SPBD, based primarily on Dr. Bowman's work. He also points out the similarities between this new disease and the "Sibbens", which is a disease that broke out in Scotland some years earlier. George Longmore (another

physician in Montreal during the 18th century) and Charles Blake also point out the similarities between the Sibbens and SPBD. Longmore's remarks are especially significant because he had the opportunity to observe both SPBD and Sibbens while he worked in the Scottish Hospitals (Lessard, 1989). Sibbens is believed to be endemic syphilis (Morton, 1967; Hudson, 1957; Pollock, 1953) and is described as "resembling syphilis in some respects- they were nonvenereal and rural, propagated endemically, chiefly among children, under the unhygienic conditions..." (Hudson, 1957:1).

Dr. Sweddiar's book offers many descriptions and methods of cure with respect to venereal complaints. This document is crucial for attaining knowledge of how venereal diseases were treated and understood in the 18th century.

Etat de Guérison pour la maladie de la Baie St. Paul

During the course of attempting to treat and cure St. Paul's Bay disease, Dr. James Bowman made two tours of the province of Quebec and visited approximately 85 parishes during his first four month tour in 1785. He only visited a few during his 1786 tour, but the exact number is not known because no reports have survived. According to Bowman's agreement with the Province of Quebec, the priests of the parishes he toured were to keep a record of the number of people infected, the date treatment started and finished, the number of people cured and any other observations relevant to the report (see Figure 3.2). This measure was undertaken in order to authenticate Bowman's results. These reports were called "Etat de Guérison" and are referred to throughout this thesis as the 'priests' reports'. Signed reports from the priests would be the basis for paying Bowman from the

government coffers. Unfortunately, only reports from the second tour have been found in the archives.

The priests' reports I located in the National Archives of Canada consist of 35 reports from various priests (NAC, RG 4 B43, vol. 2). The remaining 50 are nowhere to be found. Upon examination of the "Etat de Guérison" or State of Healing (see Figure 3.3 for example), it was found that not all the priests followed the instructions for completing the report. Most of the reports contain the names of the individuals infected but only a few recorded age and sex, which limits what can be inferred about the epidemiology of SPBD. In summary, out of the 35 priests reports, only three are complete. These contain the names of the infected, the number of cured and the ages of the individuals. Another 26 priests records are partially complete and only lack information on the age of the people infected. Six records only contain a letter written from the priests and have no list of names, no report on the number of cured individuals and no age data (Table 3.4). The manner in which these reports are analysed is discussed in the following chapter.

Over and above this basic information, some priests wrote comments that are very insightful. In the parish of St. Charles, for example the priest (Martel) indicates,

"Ils ont reçu des remèdes, mes les ont pas encore pris" (NAC, RG 4 B 43, vol.2) (they have received their medications but have yet to start taking them). Another priest by the name of Carpentier from the parish of Verchers writes that it was not until his parishioner lost his nose that he actually started taking the medication (NAC, RG 4 B 43,

Figure 3.2: A blank example of an 'Etat de Guérison', used to authenticate Dr. Bowman's claim (NAC, RG 4 B43 vol. 1).

Etat de Guérison pour la maladie de la Baie St. Paul, paroisse de

No.	N O M S.	DATE quand ils ont commencé à prendre des remedes.	DATE quand leur guérison parfaite a été reconnue.	Personnes guéries.		No.	O B S E R V A T I O N S.
				males.	fémmes.		
1.						1.	
2.						2.	
3.						3.	ne s'est pas reconnue pour être entièrement guéri.
4.	Honteux					4.	
5.						5.	
6.						6.	
7.	&c.					7.	&c.
Total affligés:			Guéris	Total.			

Au Presbytere de _____ le _____ mois de _____ 1786.

JE Prêtre Curé de _____ Certifie et déclare sur ma parole de prêtre, que Mr. Bowman, Chirurgien employé par le Gouvernement pour travailler à la guérison des personnes affligées de la maladie de la Baie St. Paul a été dans cette paroisse _____ fois et qu'il y a resté _____ jours, que sur son inspection il a trouvé _____ de mes paroissiens affligés, conformément aux noms mentionnés dans l'état ci-annexé paraphé à chaque page et signé de moi, qu'il leur a fourni des remedes gratis et qu'en conséquence des Aveux des personnes faits devant moi, les malades se sont dits guéris de la Maladie de la Baie St. Paul, au nombre de _____ ainsi qu'il est spécifié dans le dit Etat. Je certifie en outre que les différentes Observations faites dans le dit état sont à ma croiance très véritables, et que les Personnes désignées sous le nom d'honteux, ont reçu des remedes pour cette maladie à ma propre connoissance, et qu'ils ont dit devant moi être dans l'état de guérison ainsi qu'il est spécifié au dit état.

Figure 3.3: "Etat de Guérison" or State of Healing for the parish of L'Île Aux Coudres (NAC, RG 4 B43, vol.2).

Etat de Guérison pour les Malades du Parc Dieu St. Paul Paroisse de L'Île Aux Coudres

Noms	Date quand ils ont commencé à prendre des remèdes	Maladie pour laquelle ils souffrent	Personnes guéries	Age
1. Vincent			1	
2. Jacques Godreau			1	
3. Marie D.			2	
4. Joseph D.			3	
5. Marie D.			2	
6. Mesri D.			4	
7. Marguerite D.			3	
8. Ballero-Godreau				
9. ...				

Je Soussigné pasteur de l'Église de Dieu aux Coudres du diocèse de Québec Certifie par ce présent que les personnes susdites ont été guéries de leurs maladies et qu'ils ont été remis en état de santé. Les personnes susdites ont été guéries de leurs maladies et qu'ils ont été remis en état de santé. Les personnes susdites ont été guéries de leurs maladies et qu'ils ont été remis en état de santé.

Cinquante neuf personnes de cette paroisse ont été guéries de leurs maladies et qu'ils ont été remis en état de santé. Les personnes susdites ont été guéries de leurs maladies et qu'ils ont été remis en état de santé. Les personnes susdites ont été guéries de leurs maladies et qu'ils ont été remis en état de santé.

Dans l'état ci-dessus paraphé à chaque page et signé de moi-même, je certifie les autres que les différents observés dans le dit état. Je certifie les autres que les différents observés dans le dit état. Je certifie les autres que les différents observés dans le dit état.

à nos connaissances très véritables.

R. J. Compagnon

Table 3.4: Summary of the Quality of the 'Etat de Guérison'					
Complete Reports		Partially Complete Reports		Incomplete Reports	
Parish	n infected	Parish	n infected	Parish	n infected
1. St. Cuthbert	123	1.St. Philippe/St. Contant	247	1. St. Paul's Bay & Little River	317
2. St. Pierre	91	2.Yamaska	227	2.Berthier	248
3. Cap. St. Ignace	5	3.St. Charles/St.Gervais	217	3.Chambly	184
		4.Beloil	215	4.Bouchervilles	42
		5.St. Thomas	199	5.L'Islet	41
		6.St. Charles	194	6.Longueil	29
		7.St. Ours	163		
		8.Blaissendu	141		
		9.St. Henri	83		
		10.Verchers	83		
		11.Eboulements	64		
		12.Riviere Ouelle	63		
		13.Nicollette/Baie Febre	63		
		14.St. Croix et L'Obtini.	58		
		15.La Prairie	56		
		16. Sorel et Ile Du Pas	50		
		17.Kamouraska	36		
		18.Becancourt	31		
		19.St.Jean et St.Pierre et Gentilly	25		
		20.Mal Bay	23		
		21.Pointe de Levi	23		
		22.St.Roch	22		
		23.St. Michel	14		
		24.St.Francois du lac	15		
		25. St.Francois, Riv.S.	10		
		26.L'ile aux Coudres	9		

vol.2). This demonstrates the general hesitation and resistance to both starting the medication regime and, more importantly, finishing the treatment.

In the parish of Bélancourt the priest reports that Bowman found three men infected with SPBD and as a result he treated every member of their families. This resulted in an increase of 31 people treated. This is a very important point because it speaks to the issue of what the numbers of infected people actually represent. It would

appear from this example that some of the reports may have been a reflection of the number of people treated, as opposed to the number of people infected. According to the 1784 census, there was an average of 5.8 individuals per household in the Province of Quebec, therefore if we divide the 5,801 infected individuals (Bowman's first tour totals) by this average of 5.8, we still have 1,000 people infected by SPBD (Lessard, 1989). These 1,000 infected people would act as a minimum estimate if the extreme case is taken, that is, for every family treated, one person had to be infected. This would bring the infection rate down from 5 % of the population to approximately 1%. Even at this 'low' infection rate, 1 out of 100 people infected in Lower Canada is an astonishing number.

Many of the reports indicate that there are a number of "doubtful" cases, which suggests that Dr. Bowman did try to account for borderline cases. This would tend to indicate that he did not inflate the numbers but rather identified the "doubtful", and treated them nonetheless. The fact that Dr. Bowman treated the entire family in some cases and the "doubtful" cases reflects the highly contagious nature of the disease as well as the great effort put forth to try to control the spread of this outbreak.

The last major problem with these reports has to do with the manner in which individuals were labelled "cured". Since Bowman was not present when the treatment was complete the priests relied on individual self reports from each infected person. This is reflected in the report from the priest from Longueuil wherein he states "I am almost certain of their cure"(NAC, RG 4 B 43, vol.2). Ironically, it is a well known fact that mercury does not cure syphilis (McAllister, 2000; Mettler, 1947), begging the question,

what constituted a “cure”? Individuals were “cured” if they had no outward signs of the disease, in other words, no lesions or pustules. Since mercury does not cure syphilis, the “cured” label should be termed the “latent” period of the disease. For this reason the data on the number of individuals cured is not valid and is not used for analysis in this thesis.

The priests’ reports not only provide a glimpse of who was actually affected in the communities and reactions to the outbreak but they also provide information on the extent of the outbreak, both in terms of its geographical distribution and in terms of the general age distribution in each parish. This makes it possible to calculate the prevalence of the disease within the affected population in terms of male/female ratios and age groups. Furthermore, these reports validate Dr. Bowman’s numbers of infected individuals and are accepted as reliable and credible data, as acknowledged by the Council who “resolved unanimously that lists with Certificates from each parish, agreeable to the said form should become sufficient to entitle Mr. Bowman to the payment of five shillings for the cure of each person ...” (NAC, RG 4 B43 vol.1:230).

Circulaires

The word “circulaire” is a French word for letter, memorandum or a note with instructions (Dubois, 1981). These “notes of instructions” are important because they demonstrate the severity of the situation and the level of response it stimulated in both the government and church representatives. These documents are found in both the National Archives collection (NAC, RG 4 B43 vol.1) and the National Archives of Quebec

collection (NAQ, ZQ75). They are also reproduced in secondary sources (Gauvreau, 1931; Heagerty, 1928; Cochran, 1841).

The first circulaire was sent out on the 9th of February, 1783 by Bishop Briand of Quebec. This memorandum was addressed to all the priests in the Diocese of Quebec. The Bishop asked the priests to support and help the government's effort to eradicate this unknown disease. At this point, the priests' role in the outbreak was basically to comfort the people of their parishes and to gather information. As Briand states "The harm is that those who are attacked with this deadly evil regard it unfortunately as dishonouring and dare not declare it, ... Here then is what we prescribe: You will quietly and prudently learn of those who are infected in your parish. You will advise us of the number of sick ..." (Heagerty, 1928:138). Bishop Briand's letter shows that SPBD was considered to be rampant and with the help of the clergy methods were being taken to find out just how widespread and severe it was.

The second circulaire was sent on the 2nd of March, 1786, by Henry Hope, the Lieutenant Governor of the Province of Quebec, to the priests of the parishes in Quebec (Lower Canada) (Hope, 1786; NAC, RG 4 B 43, vol.1; NAQ, D2275) (see Figure 3.4). The purpose of the memorandum was to inform the priests that Dr. Bowman would be making a tour through the various parishes to identify and treat individuals affected with the St. Paul's Bay disease. He asked the priests to be as cooperative as possible and to fill out reports showing the number of people in their parishes who were infected and the number who were cured. The fact that Hope asks the priests to return certificates in order

to pay Dr. Bowman clearly demonstrates the amount of trust and reliability that the Province of Quebec placed in the priests. This in turn adds to the credibility of the priests' reports for this study.

Conclusion

It is obvious that a lot of rich material on the St. Paul's Bay disease outbreak is available. These sources are used together to provide a detailed account of the events that occurred during the outbreak. Also, the different sources allow for comparison and cross referencing of data that ensures the use of material that is not only credible, but relevant to this study.

Figure 3.4: The 'Cirulaire' of the Lieutenant Governor Henry Hamilton, 1786
(NAC, RG 4 B 43 vol.1)

(CIRCULAIRE.)

QUÉBEC, le 3 de Mars, 1786.

Monsieur,



La maladie de la Baie de St. Paul a engagé l'attention du Gouvernement dans cette province depuis plusieurs années. Les précautions qui avoient été prises l'année dernière ont plutôt servie à démontrer le progrès qu'a fait ce mal fâcheux dans les paroisses qu'à le détruire.

Sur les témoignages qu'ont rendu Messieurs les Curés du bien qui resulteroit aux sujets de Sa Majesté dans cette Province en travaillant à la guérison totale de cette maladie. Par l'avis du Conseil Mr. *Bowman* est autorisé à continuer l'ouvrage que suivant les rapports de plusieurs paroisses il a commencé avec succès.

Par les conditions faites par le Gouvernement avec Mr. *Bowman* il doit recevoir son paiement sur des certificats que Messieurs les Curés lui donneront du nombre des personnes qui à leur connoissance auront été traitées et qui se seront dites ou déclarées guéries de la maladie de la Baie de St. Paul dans chaque paroisse.

La dépense que cet objet occasionnera au Gouvernement demande que la réussite de l'entreprise soit constatée par les preuves les plus fortes. Pour cet effet il a été jugé à propos de charger Messieurs les Curés du soin de vérifier les demandes pour la guérison de cette maladie.

L'Etat de guérison—Formule duquel vous trouverez ci-inclus (où toutes les personnes affligées et guéries doivent être spécifiées) avec le certificat du nombre de guéris, a été concerté pour éviter de la peine à ces Messieurs—Sur cet état accompagné d'un certificat seulement, Mr. *Bowman* aura droit de demander son paiement.

Voiant le but où tendent ces précautions et l'importance d'un succès décidé dans une affaire aussi intéressante à toute la Province, je suis persuadé, Monsieur, que vous y donnerez tous vos soins—tant pour obtenir que vos paroissiens fassent ce qui dépendra d'eux pour leur guérison prompte et parfaite, comme pour vérifier au juste le nombre des affligés et la réussite de Mr. *Bowman* dans ses travaux pour accomplir leur guérison.

Si vous trouvez encore quelque éclaircissement nécessaire sur cet objet, je vous prie de vous adresser par Lettre à moi ou mon Secrétaire.

Je suis, MONSIEUR, avec Considération,

Votre très humble et

Obéissant Serviteur,

Henry Hope

CHAPTER IV

Results

In order to address questions about the distribution of SPBD by age, gender and community, it was necessary to analyse the “General Return” submitted by Dr. Bowman (NAC, RG 4 B43) and the “Etat de Guérison” recorded by the priests (NAC, RG 4 B43). This chapter describes the qualitative and quantitative methods used in this study. The quantitative analysis involves the use of basic statistics, map making and standardization of the parish record data in order to estimate the prevalence and percentage of people infected with SPBD. All of the methods are used together to provide a piece of the bigger picture of the situation in Lower Canada during the late 18th century.

Data Analysis

In order to efficiently analyse the data, it was first necessary to organize it in a manageable and concise manner. The material collected from the archives was separated into either qualitative or quantitative data. The qualitative materials included everything from descriptions of the disease and its symptomology, to the method of treatment, and measures taken to control the outbreak. All of this information comes from various letters written by politicians, doctors or priests and also from public bulletins warning about the disease. These materials have been thoroughly analysed and as a result I have re-constructed the events of the SPBD outbreak and extracted relevant information pertaining to the description and treatment of the disease.

The quantitative information is mostly found in Dr. James Bowman's "General Return of Persons infected with the St. Paul's Bay Disease in the Province of Quebec" which is a record of the number of people infected by SPBD (NAC, RG 4 B43, Vol. 1) and the priests' reports on the number of infected people in their respective parishes (NAC, RG 4 B43, Vol. 1). The "Etat de Guérison" were used by the government authorities to cross-check and validate Dr. Bowman's work in the parishes in order that he be properly reimbursed. In total, 85 parishes were afflicted by SPBD; however, only 35 priests' returns were collected from the archives. The remaining 50 have not been found in the archives.

Once all raw data were collected, a database was created using Corel Quattro Pro 9 to organize and analyse the information. The first step taken was to compile a list of all the parishes affected by SPBD, along with the number of people infected in each. This was done using Dr. James Bowman's report, "General Return of Persons Infected with the St. Paul's Bay Disease in the Province of Quebec", which described the parishes he had visited and how many people he had identified as infected. These results are summarized in Table 4.1. This table lists the parishes according to their respective districts, namely Quebec, Trois-Rivières and Montreal. One point to note is that each parish is assigned a reference number and this number refers to its corresponding map number (see Figure 4.1). The table also lists the population in each town according to the Census of 1790 (Census Canada, 1876), making it possible to calculate the percentage of

Table 4.1 GENERAL RETURN OF PERSONS INFECTED WITH SPBD IN PROVINCE OF QUEBEC", BY JAMES BOWMAN IN 1785 (NAC, RG 4 B 43, VOL. 1)

REF. #	PARISHES	n infected ¹	Pop. 1790 ²	% Infected
<i>DISTRICT OF QUEBEC</i>				
Q1	Mal Bay	9	254	3.5
Q2	Les Eboulements	39	515	7.6
Q3	Ile aux Coudres	9	566	1.6
Q4	St. Paul's Bay	295	1291	22.9
Q5	Little River	33	174	19.0
Q6	St. Feriole	7	276	2.5
Q7	Chateau Richer	2	640	0.3
Q8	St. John, Island of Orleans	5	652	0.8
Q9	St. Lawrence, Isl. of Orleans	12	499	2.4
Q10	Quebec	6	14000	0.0
Q11	Point aux tremles et Les Ecureils	4	847	0.5
Q12	Cap Sante	28	1218	2.3
Q13	Deschambault	70	453	15.5
Q14	St. Anne(T.R. district) et Grondine	45	1326	3.4
Q15	St. Croix et L'obtinier	58	1304	4.4
Q16	St. Antoine	96	774	12.4
Q17	St. Nicholas	29	696	4.2
Q18	St. Marie	58	1128	5.1
Q19	St. Joseph et St. Francois d'Assie	90	1331	6.8
Q20	St. Henri	78	1177	6.6
Q21	Point Levi	23	1407	1.6
Q22	St. Valier	45	1100	4.1
Q23	St. Charles et St. Gervais	231	2586	8.9
Q24	St. Michel	47	1337	3.5
Q25	St. Francois et St. Pierre	120	1901	6.3
Q26	St. Thomas	118	1598	7.4
Q27	Cape St. Ignace	0	991	0.0
Q28	L'Islet	63	1279	4.9
Q29	St. John	72	1103	6.5
Q30	St. Rock	15	1458	1.0
Q31	St. Ann	28	1316	2.1
Q32	River Well(Ouelle)	64	1859	3.4
Q33	Kamouraska	34	1706	2.0
<i>DISTRICT OF TROIS-RIVIERE</i>				
T1	St. Genevieve et St. Stanier pas	17	907	1.9
T2	Trois Riviere et Cape Madelaine	13	1537	0.8
T3	Point du lac	7	456	1.5
T4	Yamachiche	64	1669	3.8
T5	Rivier du Loup	133	1829	7.3
T6	Maskinonge	40	1155	3.5
T7	Yamaska	228	1324	17.2
T8	St. Francois du lac	6	840	0.7
T9	Nicolette et La Baie du Fevre	58	2295	2.5
T10	Becancourt	31	1027	3.0
T11	St. Jean, St. Pierre et Gentilly	25	749	3.3
<i>DISTRICT OF MONTREAL</i>				
M1	St. Cuthbert	135	1467	9.2
M2	Berthier	248	2415	10.3

(Continued on next page)

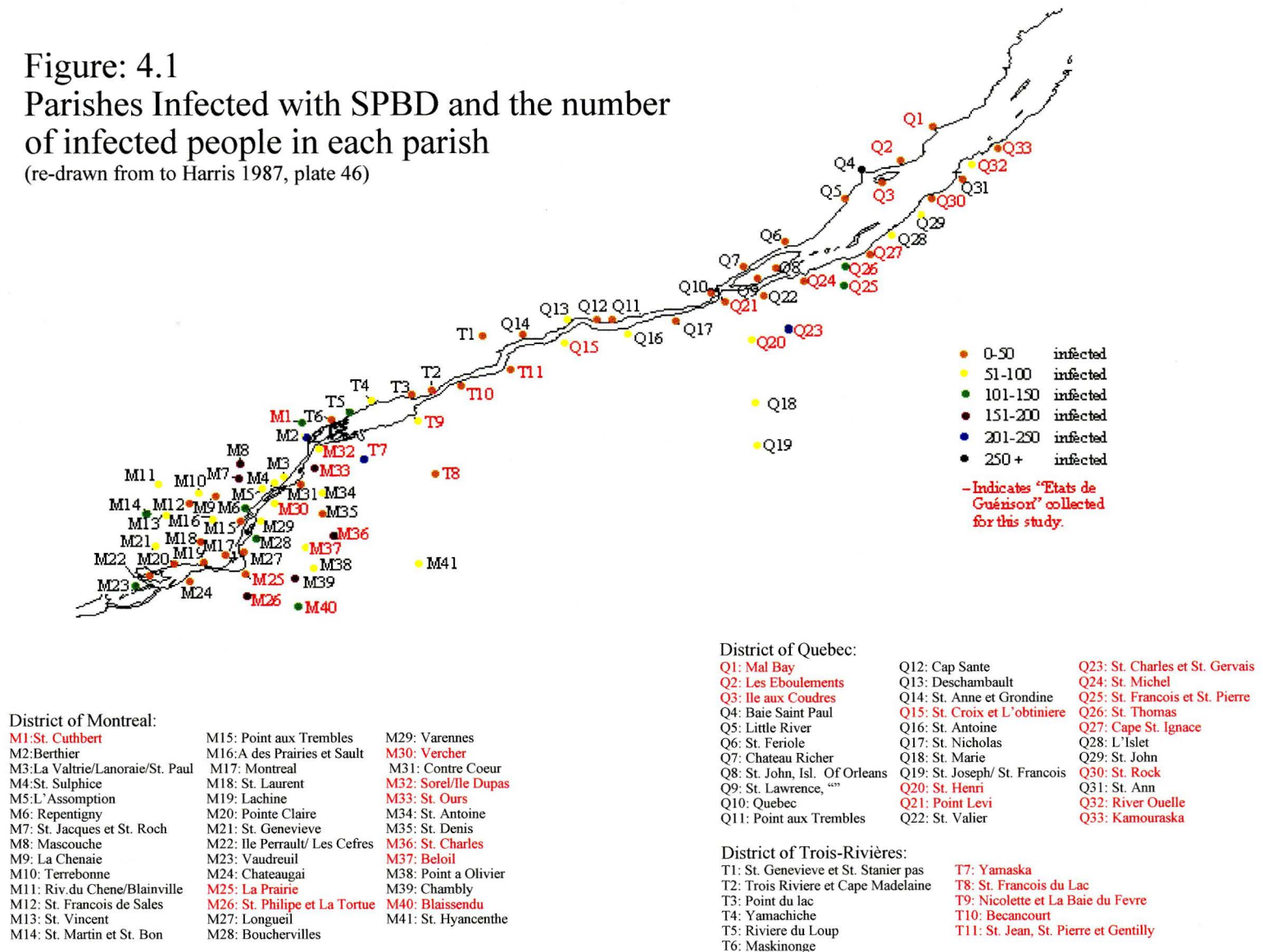
(Table 4.1: con't)

M3	La Valtrie, Lanoraie et St. Paul	62	1884	3.3
M4	St. Sulphice	65	793	8.2
M5	L'Assomption	83	2620	3.2
M6	Repentigny	140	1282	10.9
M7	St. Jacques et St. Roch	153	2168	7.1
M8	Mascouche(St. Henri & St. Anne)	190	1975	9.6
M9	La Chenaie	24	532	4.5
M10	Terrebonne	55	1114	4.9
M11	La Riviere du Chene & Blainville	96	3179	3.0
M12	St. Francois de Sales	43	480	9.0
M13	St. Vincent	54	1447	3.7
M14	St. Martin et St. Bon	107	1637	6.5
M15	Point aux trembles	39	844	4.6
M16	A des Prairies et Sault?	53	508	10.4
M17	Montreal	24	18000	0.1
M18	St. Laurent	17	1316	1.3
M19	Lachine	14	618	2.3
M20	Pointe Claire	7	1195	0.6
M21	St. Genevieve	81	1607	5.0
M22	Ile Perrault et Les Cedres	26	586	4.4
M23	Vaudreuil	106	1579	6.7
M24	Chateaugai	30	1452	2.1
M25	La Prairie	34	1704	2.0
M26	St. Philippe et La Tortue	178	1686	10.6
M27	Longueil	29	1613	1.8
M28	Bouchervilles	112	1492	7.5
M29	Varenes	64	2334	2.7
M30	Vercher	77	1686	4.6
M31	Contre Coeur	24	840	2.9
M32	Sorel et Ile Dupas	56	1607	3.5
M33	St. Ours	163	1606	10.1
M34	St. Antoine	53	1285	4.1
M35	St. Denis	43	1694	2.5
M36	St. Charles	156	1324	11.8
M37	Beloil	84	1702	4.9
M38	Point a Olivier	89	1544	5.8
M39	Chambly	161	1732	9.3
M40	Blaisendu	116	1732	6.7
M41	St. Hyancenthe	55	1360	4.0
TOTAL		5801	140189	5.2
¹ Number of infected from Bowman's report, R.G. 4, B43 Vol. 1				
² From Census Canada, 1876				

people infected by the disease in each parish. This percentage was simply calculated by dividing the total number of infected people in the parish into the total census population in 1790 and then multiplying by 100. According to Bowman's report there were 5,801 people infected by SPBD in an area with a population of about 120,000 in 1785 (Heagerty, 1928). The average percentage of people infected in the study area is approximately 5%, with the high reaching almost 23% in St. Paul's Bay (Figure 4.1, Q4).

Another way of presenting these findings is via a map, which displays all of the parishes affected by SPBD. In order to accomplish this I discussed the possibilities with Cathy Moulder, a curator at the Lloyd Reeds Map Collection in Mills Library at McMaster University. It was decided that it would be best to make a new map, therefore I extracted a skeleton map of the Lower Canada area from the library database. I proceeded to create a series of three maps (see Figures 4.1, 4.2 & 4.3) of the study area with the help of "The Historical Atlas of Canada" (Harris, 1987) using Corel Presentation Version 9 software. All of the maps have a legend and an index of all the Lower Canada parishes, which are listed under their respective districts: the Districts of Montreal, Quebec and Trois-Rivières. The parishes that are highlighted in red signify parishes for which priest reports on SPBD have been collected. Another important point to note is that all the information on the numbers of infected individuals is based on Dr. James Bowman's report, since this is the only complete report listing all 85 parishes. This ensures consistency in the data.

Figure: 4.1
 Parishes Infected with SPBD and the number
 of infected people in each parish
 (re-drawn from to Harris 1987, plate 46)



The first map displays the number of people infected with SPBD in each parish (see Figure 4.1). This map is basically a representation of the raw numbers of infected people in each parish without any consideration of population size or the percentage of the population that was infected. The purpose of this map is to give a general sense of the distribution of SPBD and the spatial separation between the various parishes. Here the lighter colours, i.e. orange, yellow, green, identify the parishes with the lowest number of infected people, while the darker colours purple, blue and black identify the parishes with the highest number of infected people. As can be seen in the map SPBD is evenly distributed on both the north and south shores of the St. Lawrence. Another interesting point is that there does not seem to be a high number of cases of SPBD near the urban centres, such as Montreal and Quebec. The highest number of infected are found in rural areas, like St. Paul's Bay, Yamaska, Berthier and St. Charles and St. Gervais.

Furthermore, the District of Montreal not only has more parishes which are infected with SPBD but also a higher number of infected individuals in its parishes. On the other hand, the District of Trois-Rivières has the least number of infected parishes, all of which have less than 100 people infected with the exception of Yamaska and Rivière du Loup (which coincidentally are located on the border of the Montreal district. The District of Quebec also has a fair number of infected parishes, but only has two parishes (St. Paul's Bay and, St. Charles and St. Gervais) with more than 150 infected individuals. This indicates that the greatest number of individuals infected with SPBD are found in the District of Montreal.

The second map shows the population of the parishes which were affected by SPBD (see Figure 4.2). The population figures for the parishes are drawn from the 1790 Census (Census Canada, 1876). The goal of this map is to show the population of the various parishes so that a comparison can be made between the size of the parishes and the number of infected people. The map also gives a general sense of the distribution of the people in the study area at the time of the outbreak. In this map the lighter colours (orange, yellow, green) represent the parishes with smaller populations while the darker colours (purple, blue, black) identify the parishes with the larger populations. The urban centres in Lower Canada are located at Montreal (M17) and Quebec city (Q10), while the rest of the parishes have a population of less than 3,000 people. The District of Montreal is the most heavily populated area, followed by the District of Quebec and then the District of Trois-Rivières. The population distribution is evenly spread out on both the north and south shores of the St. Lawrence.

The last map shows the percentage of the people infected with SPBD in each parish (see Figure 4.3). This map is very important as it allows the parishes to be compared to one another because they are represented as percentages. In other words, each parish is mapped and classified according to the percentage of people infected with SPBD, rather than simply showing the raw numbers of those infected. In this figure the lighter colours represent the lower percentages, i.e. orange identifies areas with 0-5% of the population infected, while black signifies that 21-25% of the population is infected. These percentages can also be found in Table 4.1. The distribution of the percentage of

Figure: 4.2
 Population of Parishes infected with SPBD
 (re-drawn from Harris, 1987; plate 46)

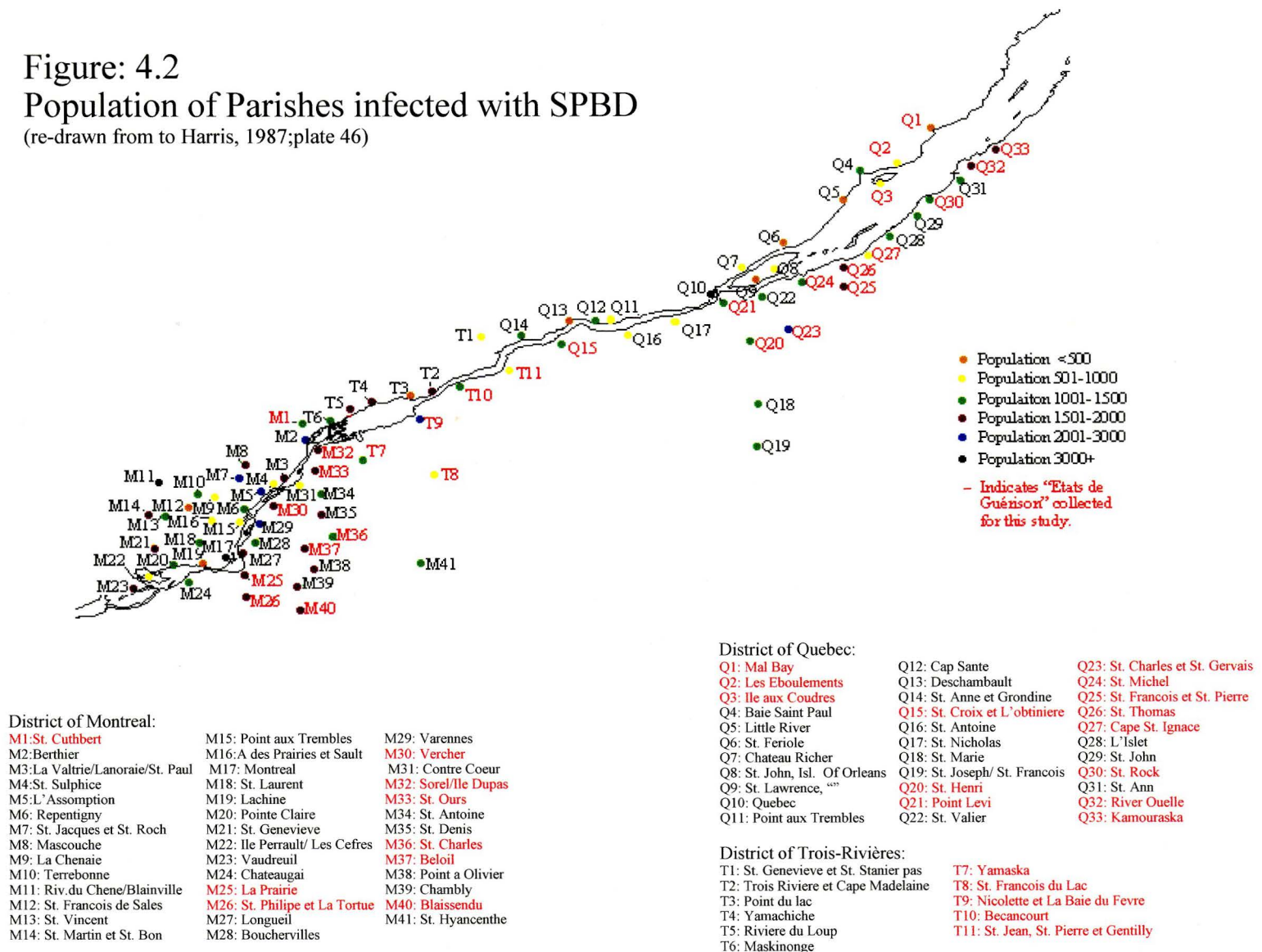
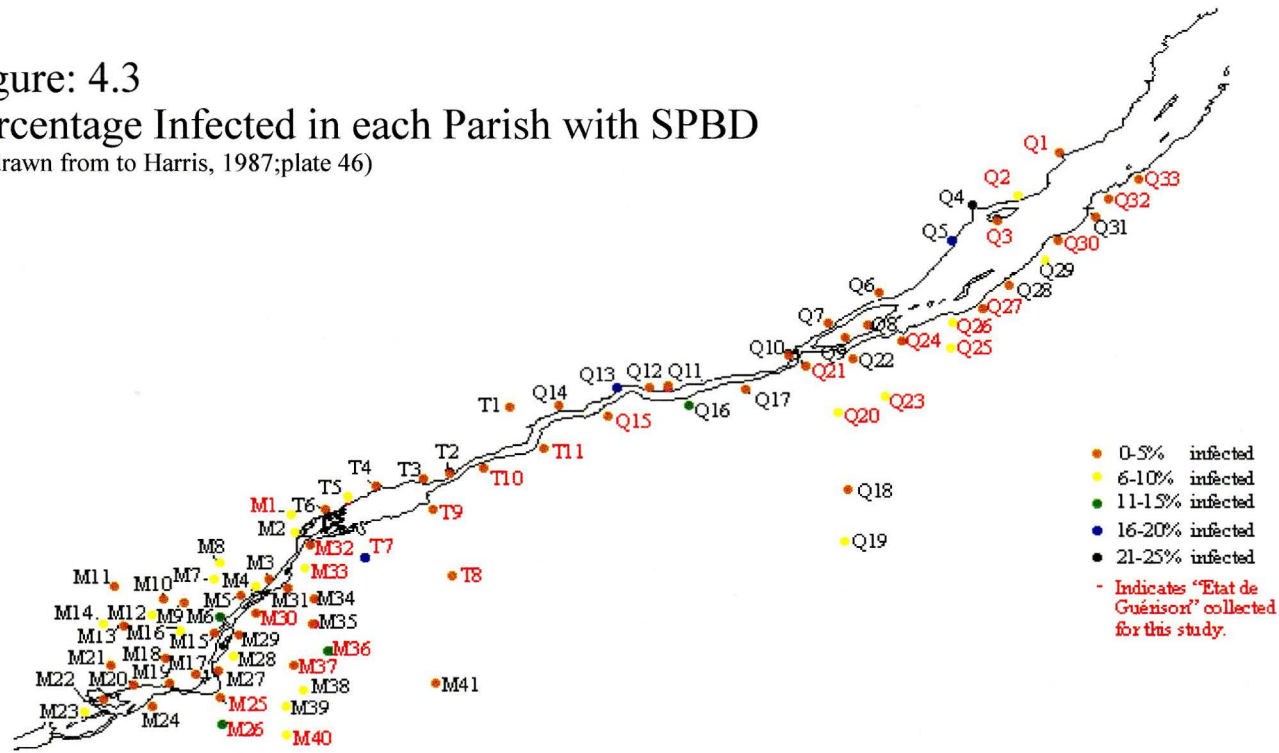


Figure: 4.3
 Percentage Infected in each Parish with SPBD
 (re-drawn from to Harris, 1987;plate 46)



- 0-5% infected
- 6-10% infected
- 11-15% infected
- 16-20% infected
- 21-25% infected
- Indicates "Etat de Guénisori" collected for this study.

District of Montreal:

- | | | |
|----------------------------------|-------------------------------|----------------------|
| M1: St. Cuthbert | M15: Point aux Trembles | M29: Varennes |
| M2: Berthier | M16: A des Prairies et Sault | M30: Vercher |
| M3: La Valtrie/Lanoraie/St. Paul | M17: Montreal | M31: Contre Coeur |
| M4: St. Sulphice | M18: St. Laurent | M32: Sorel/Ile Dupas |
| M5: L'Assomption | M19: Lachine | M33: St. Ours |
| M6: Repentigny | M20: Pointe Claire | M34: St. Antoine |
| M7: St. Jacques et St. Roch | M21: St. Genevieve | M35: St. Denis |
| M8: Mascouche | M22: Ile Perrault/ Les Cefres | M36: St. Charles |
| M9: La Chenaie | M23: Vaudreuil | M37: Beloil |
| M10: Terrebonne | M24: Chateaugai | M38: Point a Olivier |
| M11: Riv. du Chene/Blainville | M25: La Prairie | M39: Chambly |
| M12: St. Francois de Sales | M26: St. Philipe et La Tortue | M40: Blaisseau |
| M13: St. Vincent | M27: Longueuil | M41: St. Hyacinthe |
| M14: St. Martin et St. Bon | M28: Bouchervilles | |

District of Quebec:

- | | | |
|-------------------------------|--------------------------------|---------------------------------|
| Q1: Mal Bay | Q12: Cap Sante | Q23: St. Charles et St. Gervais |
| Q2: Les Eboulements | Q13: Deschambault | Q24: St. Michel |
| Q3: Ile aux Coudres | Q14: St. Anne et Grondine | Q25: St. Francois et St. Pierre |
| Q4: Baie Saint Paul | Q15: St. Croix et L'obtinierie | Q26: St. Thomas |
| Q5: Little River | Q16: St. Antoine | Q27: Cape St. Ignace |
| Q6: St. Feriole | Q17: St. Nicholas | Q28: L'Islet |
| Q7: Chateau Richer | Q18: St. Marie | Q29: St. John |
| Q8: St. John, Isl. Of Orleans | Q19: St. Joseph/ St. Francois | Q30: St. Rock |
| Q9: St. Lawrence, "" | Q20: St. Henri | Q31: St. Ann |
| Q10: Quebec | Q21: Point Levi | Q32: River Ouelle |
| Q11: Point aux Trembles | Q22: St. Valier | Q33: Kamouraska |

District of Trois-Rivières:

- | | |
|--------------------------------------|---------------------------------------|
| T1: St. Genevieve et St. Stanier pas | T7: Yamaska |
| T2: Trois Riviere et Cape Madelaine | T8: St. Francois du Lac |
| T3: Point du lac | T9: Nicolette et La Baie du Fevre |
| T4: Yamachiche | T10: Becancourt |
| T5: Riviere du Loup | T11: St. Jean, St. Pierre et Gentilly |
| T6: Maskinonge | |

infected individuals is fairly constant throughout most of Lower Canada. There are eight parishes that have greater than 10% of the population infected, with a high of 21.6% at St. Paul's Bay. Interestingly the higher percentages of infection are not found near the urban centres of Montreal and Quebec city, but rather are located in rural settings.

One of the advantages of using maps is that they allow us to visualize the parishes and to better understand how they relate to one another, both in terms of distance and in terms of the spatial distribution of the disease. The maps also display the results in a manner that demonstrates the gravity of the situation and how widespread the outbreak became. The maps also help shed light on the distribution of the infected people in terms of urban versus rural locations. Map 4.3 suggests that SPBD was not very prevalent in the urban centres of Quebec and Montreal but rather was very prevalent in the rural parishes (see Table 4.1 and Figure 4.1 & 4.2). The maps also reinforce the relationship between the number of infected individuals in a parish and the actual percentage of the population that is infected. For example, the parish of St. Charles and St. Gervais has 217 infected people in the parish (one of the higher number of infected individuals), which translates into only 8.4% of the population infected within the parish.

This is the extent of the analysis that can be based on Dr. J. Bowman's report because it only provides the numbers of infected individuals in each parish. Now, we turn to the analysis of the "Etat de Guérison pour la maladie de la Baie St. Paul" (NAC, RG 4 B43, vol. 1 & 2), many of which include the names of the infected individuals, the number of individuals who claimed to be cured, and in two parishes (St. Pierre and St.

Cuthbert), the ages of the afflicted. As stated previously, there are 85 parishes in total that were affected by SPBD. According to the agreement that Dr. Bowman had with the Province of Quebec, the parish priest was required to fill in a report and send it to the proper officials, in order for him to be reimbursed for his services. I managed to collect 35 of these reports, of which 6 are incomplete. Incomplete reports are those that only consist of a letter written by the priest confirming the number of individuals infected by the disease and for which there is no list of names. Some of the 29 complete reports were transcribed (see Appendix B) for further analysis. The initial plan was to transcribe all 29 reports, in order to organize and extract all relevant information. However, after transcribing the first 14 reports it was decided that this was not necessary and that the information could just as easily be obtained from the original reports themselves.

The 35 usable reports are summarized in Table 4.2 which presents information on the total number of infected individuals, the number of afflicted families, the number of male and female victims, the number of individuals that claimed to be cured and finally, a calculated percentage of the infected that were cured. The latter percentage was calculated by dividing the number of cured individuals by the total number of infected people and then multiplying by 100. The purpose of this table is to present all the available information I extracted from the priests' reports, to observe any female to male differences in the prevalence of SPBD, and to observe the percentage of people that were believed to have been treated successfully. In order for this to be accomplished each report was scrutinized and the total number of infected people, families, males and females was

counted (see Figure 3.3 for copy of original report). I obtained the number of infected people simply by counting the individuals on the list and determining the number of families by matching up the family names (in most cases they were already grouped together). Determining the number of females and males proved to be a little more complicated. In some cases the gender was given, but in others it had to be deduced. In these cases, the gender was obtained by cross referencing the unknown genders with some of the known genders provided in the reports. In other words, the given names were matched from one report to another. For example, in the parish of Eboulement the given name Baptiste was on the list with no gender, but the priest at Vercher identifies a Baptiste as male. I therefore inferred that the Baptiste at Eboulement was also male. When that failed, the name was looked up in "The New Baby Name Index" (NBNI, 1996).

A number of problems were encountered while trying to create this table. Some of the names are very difficult to read and the reliability of some of the information on the number of individuals cured is questionable. This is evident in many remarks in which the priests are uncertain whether an individual had actually been cured. For example, Mr. Demeulle, the priest at Longueuil, states "Je suis presque certain de leur guérison", which means that he is almost certain of their cure. This seems to be the common way of identifying those who have been cured versus those who have not. Those deemed "cured" were supposed to be inspected by Dr. Bowman on his second trip but for the most part he either did not see the patient or they did not present themselves for examination. Furthermore, the infected individual usually presented himself/herself to the priest and

Table 4.2 SUMMARY OF THE 35 PARISHES ACCORDING TO THE "ETAT DE GUERISON POUR LA MALADIE DE LA BAIE ST. PAUL"						
REF. #	PARISHES	Pop. in	n			
		1790 ¹	Infected ²	Male ²	Fem. ²	Cured ²
<i>DISTRICT OF QUEBEC</i>						
Q1	Mal Bay	254	23	12	11	10
Q2	Les Eboulements	545	64	36	27	22
Q3	Ile aux Coudres	566	9	5	4	7
Q4,Q5	St. Paul's Bay(incl. Little River)	1465	317			68
Q15	St. Croix et L'obtinier	1304	58	27	31	10
Q20	St. Henri	1177	83	41	42	0
Q21	Point Levi	1407	23	10	13	10
Q23	St. Charles et St. Gervais	2586	217	101	116	18
Q24	St. Michel	1307	14	5	9	9
Q25	St. Francois(St. Pierre is below)	1030	10	3	7	10
	St. Pierre	871	91	39	52	22
Q26	St. Thomas	1598	199	99	100	37
Q27	Cape St. Ignace	991	5	1	4	0
Q28	L'Islet	1279	41			19
Q30	St. Rock	1458	22	9	13	0
Q32	River Well(Ouelle)	1859	63	28	35	39
Q33	Kamouraska	1706	36	15	21	23
<i>DISTRICT OF TROIS-RIVIERES</i>						
T7	Yamaska	1324	227	108	119	0
T8	St. Francois du lac	840	15	7	8	5
T9	Nicolette et La Baie du Fevre	2295	63	34	29	6
T10	Becancourt	1027	31	12	19	31
T11	St. Jean, St. Pierre et Gentilly	749	25	13	12	25
<i>DISTRICT OF MONTREAL</i>						
M1	St. Cuthbert	1467	123	62	61	36
M2	Berthier	2415	248			5
M25	La Prairie	1704	56	32	34	2
M26	St. Philippe et La Tortue	1686	247	126	121	23
M27	Longueuil	1613	29			
M28	Bouchervilles	1492	112			
M30	Vercher	1686	83	45	38	7
M32	Sorel et Ile Dupas	1607	50	22	28	0
M33	St. Ours	1606	163	79	84	77
M36	St. Charles	1324	194	97	97	38
M37	Beloil	1702	215	111	104	0
M39	Chambly	1732	184			0
M40	Blaissendie	1774	141	66	75	0
	TOTAL		3481	1245	1314	559
¹ Canada Census, 1876						
² from "Etat de Guerison", NAC, RG 4 B 43, Vol. 2						

claimed to be cured, which often resulted in a “cured” verdict. This makes the data on the number of cured people very subjective and unreliable and as a result these data should not be given much credibility.

Percentage of People Infected with SPBD

The percentage of people infected with SPBD is calculated for the 35 study parishes and presented in Table 4.3. Even though this has already been estimated using Dr. Bowman’s statistics (Table 4.1), this new set of calculations utilises the priests’ returns, which do vary a little from Bowman’s report (Table 4.3). The differences are mainly due to the fact that the priests’ reports were written about one year after Dr. Bowman’s initial inspection in 1785 and, since he did not visit all the parishes during his second tour (1786), there are some discrepancies in the total number of infected people. In addition, Bowman’s visits were short while the priests were reporting the cumulative numbers of the infected in their respective parishes over a period of one year. This means that some people probably died, some families had babies, while others migrated to new areas. Furthermore, the priests were diagnosing the symptoms of SPBD according to Bowman’s instructions and therefore would include new cases in their counts.

Table 4.3 also includes population counts for each parish from the 1784 census and 1790 census. Unfortunately the 1784 census is located in England and was therefore impossible to consult for the purposes of this thesis. However, the population counts for nine parishes from this census were cited in a thesis entitled “Le mal de la baie Saint-Paul” (Lessard, 1989:18). Both census counts were used in order to provide comparative

Table 4.3 PERCENT OF INDIVIDUALS INFECTED WITH SPBD IN 35 STUDY PARISHES ACCORDING TO THE "ETAT DE GUERISON" OF 1784							
REF. #	PARISHES	Pop. in 1784 ²	Pop. in 1790 ²	n of Infected ³	% infected in		% infected Bowman's
					1784 census	1790 census	Statistics ⁴
DISTRICT OF QUEBEC							
Q1	Mal Bay		254	23		9.1	3.5
Q2	Les Eboulements	395	545	64	16.2	11.7	7.6
Q3	Ile aux Coudres		566	9		1.6	1.6
Q4,Q5	St. Paul's Bay(incl. Little River)	1151	1465	317	27.5	21.6	22.9
Q15	St. Croix et L'obtinere		1304	58		4.4	4.4
Q20	St. Henri	973	1177	83	8.5	7.1	6.6
Q21	Point Levi		1407	23		1.6	1.6
Q23	St. Charles et St. Gervais	2301	2586	217	9.4	8.4	8.9
Q24	St. Michel		1307	14		1.1	3.5
Q25	St. Francois(St. Pierre is below)		1030	10		1.0	6.3
	St. Pierre		871	91		10.4	
Q26	St. Thomas		1598	199		12.5	7.4
Q27	Cape St. Ignace		991	5		0.5	0
Q28	L'Islet		1279	41		3.2	4.9
Q30	St. Rock		1458	22		1.5	1
Q32	River Well(Ouelle)		1859	63		3.4	3.4
Q33	Kamouraska		1706	36		2.1	2
	Average of % infected for District of Quebec					6.0	5.4
DISTRICT OF TROIS-RIVIERES							
T7	Yamaska	1011	1324	227	22.5	17.1	17.2
T8	St. Francois du lac		840	15		1.8	0.7
T9	Nicolette et La Baie du Fevre		2295	63		2.7	2.5
T10	Becancourt		1027	31		3.0	3
T11	St. Jean, St. Pierre et Gentilly		749	25		3.3	3.3
	Average of % infected for District of Trois-Rivieres					5.6	5.3
DISTRICT OF MONTREAL							
M1	St. Cuthbert	1136	1467	123	10.8	8.4	9.2
M2	Berthier	1608	2415	248	15.4	10.3	10.3
M25	La Prairie		1704	56		3.3	2
M26	St. Philippe et La Tortue		1686	247		14.7	10.6
M27	Longueil		1613	29		1.8	1.8
M28	Bouchervilles		1492	112		7.5	7.5
M30	Vercher		1686	83		4.9	4.6
M32	Sorel et Ile Dupas		1607	50		3.1	3.5
M33	St. Ours	1263	1606	163	12.9	10.1	10.1
M36	St. Charles	862	1324	194	22.5	14.7	11.8
M37	Beloil		1702	215		12.6	4.9
M39	Chambly		1732	184		10.6	9.3
M40	Blaissendie		1774	141		7.9	6.7
	Average of % infected for District of Montreal					8.5	7.1
					Average	6.8	6.0
¹ Census data for 1784 populations is from Lessard, 1989:18. ² Census data for 1790 populations is from Census Canada, 1876. ³ Number of infected from "Etat de Guerison", NAC, RG 4 B43, vol. 1 ⁴ From Table 4.1							

infection rates based on the two census points. This is very important because the 1790 census was conducted some five years after the reports on the outbreak were carried out and therefore will under-represent the severity of the epidemic, since the population of the towns is expected to have increased over that five year period. This is clearly demonstrated in Table 4.3, where, for example, the parish of Les Eboulements shows only 11.7% of the population infected in 1790 but when the 1784 census is used the percent infected rises to just over 16%. This is the case for all of the parishes where both sets of census data are available.

The percentage of the population infected by SPBD ranges from a low of 0.5% in Cap St. Ignace (see Figure 4.3, Q27) all the way to an incredible 21.6% in St. Paul's Bay/Little River (see Figure 4.3, Q4 & Q5). On average, approximately 6.8% of the population of the three Districts was affected. One cannot forget that this number would actually be higher if the proper census data were available. An average of 6.0% is obtained when Bowman's statistics are used to calculate the percentage of the population infected by SPBD. This is only 0.8% less than the calculated average using the priests reports. The percentage of infected ranges from a low of 0% at Cap St. Ignace to a high of 22.9% at St. Paul's Bay/Little River. The percentages from both sets of data are very close with the greatest variation being 7.7% higher according to the priest report at the parish of Beloil. On the whole only 11 out of the 35 parishes deviate more than 1% from each other.

Prevalence by Age Group

The prevalence of SPBD by age group gives important information with respect to the distribution of the disease among the affected population. More specifically the prevalence of SPBD is calculated for two age groups: individuals less than 16 and individuals over 16 years of age (children vs. adults). It is important to distinguish the rate of infection among children and adults to determine whether SPBD was more likely to have been venereal or endemic syphilis. These two diseases are very similar but endemic syphilis is more common in children while venereal syphilis tends to afflict the sexually active group in the population and is rare in children. Another reason for choosing this age division is that the 1790 census is broken down into this age division, making the calculations easier and more accurate.

In order to calculate the prevalence of SPBD in children (< 16) and adults (16 +), the number of infected individuals in each group must be determined. This poses a few problems, since only two of the 35 priests' reports include information on age (St. Pierre and St. Cuthbert). Therefore, the remaining 33 parishes were standardized by age to both St. Pierre(Q25) and St. Cuthbert(M1) parishes.

Table 4.4 shows the prevalence of SPBD by age for these two parishes. Prevalence is simply calculated by dividing the number of infected in each age group by the total population of each age group and then converting that number into a percentage by multiplying by 100. The average rate of prevalence for both St. Cuthbert and St. Pierre for

the population under the age of 16 is 9.3%, while it was 9.6% for the population over 16. It is astonishing to find that about half of the cases at St. Pierre occur among children and about one third of the cases are among children at St. Cuthbert. There does not seem to be a group that is more susceptible to the disease but rather it is present at about the same magnitude in both age categories.

The remaining 33 parishes were standardised to the age distribution of St. Pierre and St. Cuthbert's. An age estimate could be made from the priests' lists using marriage and other indicators (widowhood and/or grandparent status) to determine whether a person was over the age of 16. This, however, would rely on huge assumptions that would tend to overestimate the number of people assigned to the <16 age group, while at the same time underestimating those in the 16+ age group. Therefore, standardisation of the data for the remaining 33 parishes seems to be the only plausible solution.

There are basically two methods of standardisation: the direct and indirect method. According to Newell (1988:66) direct standardisation involves "taking a standard population and applying to it the specific rates for the populations being compared". In indirect standardisation, one "takes a set of standard rates and applies these to the populations being compared to produce a number of expected events" (Newell, 1988:66). The advantage of the indirect method is that it is not necessary to know the specific rates in the populations being compared. Overall, both methods yield similar results as long as a suitable standard is chosen (Newell, 1988; Lilienfeld, 1980). St. Pierre and St. Cuthbert

Table 4.4 St. Pierre and St. Cuthbert parishes: Prevalence of SPBD by Age for children (<16) and adults (16+), using 1790 census

REF. #	PARISHES	n Infected ¹	Age distribution of infected ¹ ;		1790 census ³			Estimated Prevalence/100	
			<16	16+	pop.	< 16	16 +	< 16	16+
<i>DISTRICT OF QUEBEC</i>									
Q25	St. Pierre	91	43	48	871	367	504	11.7	9.5
<i>DISTRICT OF MONTREAL</i>									
M1	St. Cuthbert	123	47	76	1467	687	780	6.8	9.7
								Average:	
								9.3	9.6
¹ Number of infected with SPBD and their distribution from NAC, R.G..4, B43 Vol.1									
² Census data for 1790 is from Census Canada, 1876									

are the parishes that are used as standards, because the information in the priests reports is complete. The advantage of using these two parishes is that they allow us to make comparisons between all the parishes. The disadvantage of course is the small sample size, which does not allow us to account for the variation between all the parishes.

The method that best suits the data in this study is the indirect method. The formula used to calculate the new expected events (number of infected per age category) is: observed population multiplied by the expected standard rate (Newell, 1988). In other words, the total number of infected individuals from each parish is multiplied by the standard rate from St. Pierre and St. Cuthbert. This standard rate is calculated for both parishes by determining what the percentage of children and adults in the total infected

population for each of the two parishes. Then an average of both is taken and this becomes the age-specific rate used to standardise the remaining 33 parishes. For example, in St. Pierre (see Table 4.4) there are 43 infected individuals under the age of 16 and a total of 91 infected individuals in the parish, giving a prevalence of 0.47 for children. The same procedure was carried out for St. Cuthbert.

The average prevalence by age for both St. Pierre and St. Cuthbert is used here to obtain a better estimate that smooths the effects of small sample size and random error. The average prevalence for children in the two parishes is 0.43 and 0.58 per 100 for adults. Ideally, prevalence for several parishes would be available so that the average prevalence for children and adults would be more accurate. Using this method the number of infected for the two age groups has been estimated for the remaining parishes (Table 4.5). For example, to age standardise the prevalence of SPBD in Mal Bay, we take the number of infected individuals (23) and multiply it by the standard rate of 0.43 to arrive at a value of 9.9, which is the estimated number of infected children (<16) for the parish of Mal Bay.

As Table 4.5 indicates, if the average age-specific rates for St. Pierre and St. Cuthbert are applied to the other parishes, the prevalence of SPBD in the two age groups is fairly even and demonstrates once again that it was not only the adults who were being affected by this disease but also children. The results reveal that the estimated prevalence ranges from a low of 0.5% (for both children and adults) at Cap St. Ignace to a high of 18.7% in children and 24.3% in adults at St. Paul's Bay. Also, the prevalence of

Table 4.5		Indirect Age Standardised Estimates of the Prevalence of SPBD by age for children (<16) and adults (16+), using 1790 census							
REF. #	PARISHES	n Observed Infected ¹	Expected n of infected ²		1790 census ³			Estimated Prevalence/100	
			<16	16+	pop.	< 16	16 +	< 16	16+
<i>DISTRICT OF QUEBEC</i>									
Q1	Mal Bay	23	9.9	13.3	254	134	120	7.4	11.1
Q2	Les Eboulements	64	27.5	37.1	545	266	279	10.3	13.3
Q3	Ile aux Coudres	9	3.9	5.2	566	266	300	1.5	1.7
Q4, Q5	St. Paul's Bay(incl. Little River)	317	136.3	183.9	1465	721	744	18.9	24.7
Q15	St. Croix et L'obtinere	58	24.9	33.6	1304	567	737	4.4	4.6
Q20	St. Henri	83	35.7	48.1	1177	580	597	6.2	8.1
Q21	Point Levi	23	9.9	13.3	1407	512	895	1.9	1.5
Q23	St. Charles et St. Gervais	217	93.3	125.9	2586	1252	1334	7.5	9.4
Q24	St. Michel	14	6.0	8.1	1307	592	715	1.0	1.1
Q25	St. Francois(St. Pierre is below)	10	4.3	5.8	1030	827	1074	0.5	0.5
	St. Pierre	91	39.1	52.8	871	367	504	10.7	10.5
Q26	St. Thomas	199	85.6	115.4	1598	781	817	11.0	14.1
Q27	Cape St. Ignace	5	2.2	2.9	991	427	564	0.5	0.5
Q28	L'Islet	41	17.6	23.8	1279	603	676	2.9	3.5
Q30	St. Rock	22	9.5	12.8	1458	753	705	1.3	1.8
Q32	River Well(Ouelle)	63	27.1	36.5	1859	959	900	2.8	4.1
Q33	Kamouraska	36	15.5	20.9	1706	903	803	1.7	2.6
	Average prevalence for District of Quebec							5.3	6.7
<i>DISTRICT OF TROIS-RIVIERES</i>									
T7	Yamaska	227	97.6	131.7	1324	614	710	15.9	18.5
T8	St. Francois du lac	15	6.5	8.7	840	392	448	1.6	1.9
T9	Nicolette et La Baie du Fevre	63	27.1	36.5	2295	952	1343	2.8	2.7
T10	Becancourt	31	13.3	18.0	1027	480	547	2.8	3.3
T11	St. Jean, St. Pierre et Gentilly	25	10.8	14.5	749	343	406	3.1	3.6
	Average prevalence for District of Trois-Rivieres							5.3	6.0

(Continued on next page)

Table 4.5: (continued)

REF. #	PARISHES	n Observed Infected ¹	Expected n of infected ²		1790 census ³			Estimated Prevalence/100		
			<16	16+	pop.	< 16	16 +	< 16	16+	
<i>DISTRICT OF MONTREAL</i>										
M1	St. Cuthbert	123	52.9	71.3	1467	687	780	7.7	9.1	
M2	Berthier	248	106.6	143.8	2415	1142	1273	9.3	11.3	
M25	La Prairie	56	24.1	32.5	1704	774	930	3.1	3.5	
M26	St. Philippe et La Tortue	247	106.2	143.3	1686	785	901	13.5	15.9	
M27	Longueil	29	12.5	16.8	1613	713	900	1.7	1.9	
M28	Bouchervilles	112	48.2	65.0	1492	625	867	7.7	7.5	
M30	Vercher	83	35.7	48.1	1686	823	863	4.3	5.6	
M32	Sorel et Ile Dupas	50	21.5	29.0	1607	666	941	3.2	3.1	
M33	St. Ours	163	70.1	94.5	1606	756	850	9.3	11.1	
M36	St. Charles	194	83.4	112.5	1324	599	725	13.9	15.5	
M37	Beloil	215	92.5	124.7	1702	823	879	11.2	14.2	
M39	Chambly	184	79.1	106.7	1732	834	898	9.5	11.9	
M40	Blaisserie	141	60.6	81.8	1774	893	881	6.8	9.3	
Average prevalence for District		of Montreal						7.8	9.2	
								Avg.	6.2	7.5
¹ Number of infected from "Etat de Guerison" in NAC, R.G..4, B43 Vol.1										
² Standardised to the parishes of St. Pierre and St. Cuthbert using the indirect method										
³ Census data for 1790 is from Census Canada, 1876										

SPBD seems to be fairly similar among the District of Quebec and Trois-Rivières, while it is slightly higher in the District of Montreal. It is important to note that by applying the age-specific rates for St. Pierre and St. Cuthbert to the age distributions of the other parishes, a major assumption is being made but this allows for comparison between the parishes.

Prevalence by Sex

The prevalence of SPBD by sex allows us to determine if the disease is more prevalent among females or males. For example, if males had a greater tendency to be afflicted by SPBD then it would appear that some of the activities in which males engage made them more susceptible to the disease. According to Table 4.6, the total number of males affected in the 29 parishes is 1,245, while the number of females is 1,314. Only 29 parishes are used in this analysis because the remaining six are missing information with regards to the gender of the infected individuals.

There are two basic calculations in Table 4.6. The first is the sex-specific prevalence which is calculated by dividing the number of infected males by the total number of males at risk in the respective parishes. For example, in Mal Bay there are 12 infected males and the total male population, according to the 1790 census, is 123 males. Therefore the sex-specific prevalence for the males is 9.8%. The same procedure is followed for the female calculations. The average prevalence for males is 6.1 per 100 and 6.6 per 100 females. The sex-specific prevalence at St. Jean, St. Pierre & Gentilly has the

narrowest variation, 3.3 per 100 males and 3.4 per 100 females, while the widest variation is at Yamaska with a rate of 16.0 per 100 males and 18.3 per 100 females.

The second calculation is the male/female ratio and is simply calculated by dividing the male prevalence by the female prevalence. A ratio of 1 signifies that both females and males were equally infected. As the tendency of infection shifts towards the males the ratio increases. Overall the m/f ratio is 0.9, which indicates that the number of infected males and females is almost equal, in other words, no significant sex differences exist.

Table 4.6		Prevalence of SPBD by Sex: In the 35 Study Parishes								
REF. #	PARISHES	Total n	Infected	Infected	n	n	Sex-specific Prevalence		M/F ratio	
		Infected ²	Males ²	Fem. ²	males ¹	fem. ¹	Males	Females		
<i>DISTRICT OF QUEBEC</i>										
Q1	Mal Bay	23	12	11	123	131	9.8	8.4	1.2	
Q2	Les Eboulements	64	36	27	291	254	12.4	10.6	1.2	
Q3	Ile aux Coudres	9	5	4	287	279	1.7	1.4	1.2	
Q4,Q5	St. Paul's Bay(incl. Little River)	317			731	729				
Q15	St. Croix et L'obiniere	58	27	31	657	647	4.1	4.8	0.9	
Q20	St. Henri	83	41	42	569	608	7.2	6.9	1.0	
Q21	Point Levi	23	10	13	709	698	1.4	1.9	0.8	
Q23	St. Charles et St. Gervais	217	101	116	1371	1215	7.4	9.5	0.8	
Q24	St. Michel	14	5	9	644	663	0.8	1.4	0.6	
Q25	St. Francois(St. Pierre is below)	10	3	7	531	499	0.6	1.4	0.4	
	St. Pierre	91	39	52	419	452	9.3	11.5	0.8	
Q26	St. Thomas	199	99	100	812	786	12.2	12.7	1.0	
Q27	Cape St. Ignace	5	1	4	503	488	0.2	0.8	0.2	
Q28	L'Islet	41			652	627				
Q30	River Rock	22	9	13	724	734	1.2	1.8	0.7	
Q32	River Well(Ouelle)	63	28	35	959	900	2.9	3.9	0.8	
Q33	Kamouraska	36	15	21	883	823	1.7	2.6	0.7	
Average for the District of Quebec							4.9	5.3	0.8	
<i>DISTRICT OF TROIS-RIVIERES</i>										
T7	Yamaska	227	108	119	674	650	16.0	18.3	0.9	
T8	St. Francois du lac	15	7	8	430	410	1.6	2.0	0.8	
T9	Nicolette et La Baie du Fevre	63	34	29	1169	1126	2.9	2.6	1.1	
T10	Becancourt	31	12	19	520	507	2.3	3.7	0.6	
T11	St. Jean, St. Pierre et Gentilly	25	13	12	392	357	3.3	3.4	1.0	
Average for the District of Trois-Riveres							5.2	6.0	0.9	
<i>DISTRICT OF MONTREAL</i>										
M1	St. Cuthbert	123	62	61	707	760	8.8	8.0	1.1	
M2	Berthier	248			1226	1189				
M25	La Prairie	56	32	34	847	857	3.8	4.0	1.0	
M26	St. Philippe et La Tortue	247	126	121	894	792	14.1	15.3	0.9	
M27	Longueuil	29			830	783				
M28	Bouchervilles	112			768	724				
M30	Vercher	83	45	38	802	884	5.6	4.3	1.3	
M32	Sorel et Ile Dupas	50	22	28	819	788	2.7	3.6	0.8	
M33	St. Ours	163	79	84	800	806	9.9	10.4	0.9	
M36	St. Charles	194	97	97	711	613	13.6	15.8	0.9	
M37	Beloil	215	111	104	851	851	13.0	12.2	1.1	
M39	Chambly	184			865	867				
M40	Blaisserie	141	66	75	907	867	7.3	8.7	0.8	
Average for the District of Montreal							8.8	9.1	1.0	
TOTAL		3481	1245	1314	25077	24364				
Avg.							6.1	6.6	0.9	
¹ Canada Census, 1876										
² Information from "Etat de Guerison" in NAC, RG 4 B 43, Vol. 2										

CHAPTER V

St. Paul's Bay Disease: Endemic Syphilis or Venereal Syphilis?

The purpose of this chapter is to evaluate all of the qualitative and quantitative evidence in order to determine if St. Paul's Bay disease was actually venereal syphilis. In order to accomplish this, all the lines of evidence must be considered, including:

Dr. Franz Sweddiar's (1796) opinions; the descriptions of symptoms, treatment, and the method of transmission of SPBD; the diagnosis of the medical authorities of that time; and comparison of the SPBD outbreak to an 18th century, Scottish outbreak of endemic syphilis known as 'Sibbens'. Lastly, the age and sex distribution of the infected individuals within specific parishes, as well as the distribution of the infected throughout the Province of Quebec, is discussed. The distribution of SPBD is further compared to outbreaks of endemic syphilis that occurred in Sudan and Bosnia (E. I. Grin, 1953;1961) and among the Bedouin Arabs (Csonka, 1952; Hudson, 1958).

I argue that the weight of all the evidence supports the assertion that SPBD was not venereal syphilis, but rather endemic syphilis.

Syphilis in the 18th Century

An integral component of the analysis of SPBD is the description of venereal syphilis as it was seen and understood in the 18th century. This information comes from Dr. Franz Sweddiar's (1796) book entitled, "Practical Observations on Venereal Complaints" and provides the historical description of syphilis, including its symptoms,

cure, transmission and diagnosis.

“On the Syphilis or Venereal Disease in particular” is the eleventh chapter in Sweddiaurs’ (1796) book. It discusses “the nature, symptoms, and cure of the syphilis or venereal disease, commonly called a *confirmed lues* or *pox*” (Sweddiaur, 1796:158).

The symptoms which are most commonly produced by the pox are:

1. In the eyes: The most violent inflammation, with a discharge of puriform matter, ending generally in perfect blindness,....
2. In the ears: Tingling in the ears; deafness, with or without puriform discharge...
3. In the nose: Ulcers in the nostrils; an ulceration of the mucous membrane of the nose, with a caries of the bones, especially of the septum; whence the disfiguration of the nose, which we see now and then in people walking in the streets...
4. In the mouth and throat: Ulcers, caries of the ossa palatina or antrum maxillare, erosion of the velum, sore throat,...
5. In or about the genital parts, it produces or proves a perpetual sores of excoritions, ulcers, fistulas, gleans, warts, condylomata.
6. In the skin: Copper-coloured spots, scurf, tatters, scabs, especially on the margin of the scalp, or in the beard; a scald head,...
7. In the bones: Either the most excruciating pains and swellings, commonly called tophi, exostoses, especially troublesome at night when the patient grows warm in bed. The bones most likely to be affected by the disease are not covered with muscles, as the tibia, the radius, the elbow, the processus coracoideus, sternum, the os frontis, and other bones of the head,...
8. Sometimes the venereal poison will produce effects, the nature of which is so concealed that they seem rather arising from some other cause. Such as pains in several parts of the body, resembling those of the rheumatic kind, pains in the articulations, ...
9. Sometimes the lues is really combined with other disorders, such as the sea-scurvy, intermittent fevers, consumptions, ... (Sweddiaur, 1796:159-160)¹

¹ Several terms are defined (Lexico, 2001; Woolf, 1974): *fistula* -an abnormal passage leading from an abscess or hollow organ; *gleans* -an inflammation of the urethra resulting in a purulent discharge; *scurf* -thin dry scales of skin; *tatters* -various skin diseases characterized by eruptions and itching ; *scabs* -crusted lesion or a protective crust over a sore.

The chapter also lists all the ways by which ‘venereal poison’ could be transmitted:

1. By coition of an healthy person with another who is infected with venereal symptoms of the genitals.
2. By the coition of an healthy person with another apparently healthy, in whose genitals the poison lies concealed, without having yet produced any bad symptoms.
3. By sucking. In this case, the nipples of the wet nurse may be infected by venereal ulcers in the mouth of the child; or vice versa.
4. By exposing to the contact of the venereal poison any part of the surface of the body, by kissing, touching, especially if the parts so exposed have been previously excoriated, wounded or ulcerated.
5. By wounding any part of the body with a lancet or knife infected with the venereal virus (Sweddiaur, 1796:14-15).

The last topic Sweddiaur discussed with respect to syphilis is the method of cure. Briefly stated, mercury was the common method used to cure individuals infected with syphilis.

Mercury could be applied topically (friction) or ingested (either by pill or dissolved in water) or by fumigation, depending on the needs and conditions of each patient.

Sweddiaur goes on to mention several other remedies, but he warns that he has never seen a cure for syphilis without the use of mercury. The only other remedy worthy of note is *Lobelia Syphilitica*, the root of which was used by Aborigines of North America to cure the pox (this is the root mentioned by Dr. Peter Kalm, page 11, above) (Forster, 1972).

The last issue to discuss with regards to Dr. Sweddiaur is his diagnosis of St. Paul’s Bay disease. Sweddiaur agrees with the diagnosis of syphilis but also stresses the great similarity between Sibbens and SPBD. He goes on to state in a later chapter (1796:238) that “ the disease called the Sibbens in Scotland, was supposed by some to be

a complication of the venereal disease with the itch; but I have referred it under the syphilis, especially as its symptoms are so nearly related to the new venereal disease of Canada” (Sweddiaur, 1796:238).

Dr. Sweddiaur reinforces the claim that SPBD could have actually been endemic syphilis by verifying the great similarity between the Sibbens of Scotland and SPBD. Furthermore, his statements that both these disease were a ‘peculiar’ type of syphilis or complicated by the itch, which supports the idea that SPBD was not ‘classic’ venereal syphilis. Lastly, Sweddiaur helps us understand why the physicians of the 18th century diagnosed SPBD as syphilis because it definitely falls within the descriptions and characteristics of syphilis as they were understood in the 18th century.

Symptoms, Treatments, Transmission and Diagnosis of SPBD

The information for this section comes from the letters and publications of several doctors who observed and treated the SPBD. These doctors include Dr. Philippe Badelart, Dr. James Bowman, Dr. Robert Jones and Dr. Charles Blake.

Symptoms. When discussing diseases it is important that all observations refer to the same disease and that no confusion exists with respect to the identification of the illness. In the case of SPBD, it appears that “The symptoms are so unequivocal, so certain, that one cannot mistake them” (Badelart, 1784), which explains why the descriptions of the symptoms of the SPBD by various medical doctors are very similar. This helps to ensure that only SPBD, and not some other disease, is being described by the observers.

As noted earlier, Dr. Philippe Badelart was the first physician to publish a report on SPBD. In his newspaper article (reproduced in part in Ch. 2: 4), Badelart identifies the symptoms and the fact that there are three stages of progression during the course of the disease (see Table 5.1 for summary). Dr. Badelart indicates that the initial symptoms of SPBD include a sore throat, and hoarseness of the palate, tonsils and uvula. Ulcers, difficulty in swallowing, white callous ulcers at sides of mouth and scaly pustules are also part of the first stage. The second stage is marked by pains in the joints and a general feeling of 'malaise'. The third and last period of the disease involves painful swellings and destruction of the spongy bones and cartilage of the nose.

The next doctor to describe the disease was Dr. James Bowman (see Figure 3.1) and he states that (I translate freely from the French):

The first indication of this sinister Maladie, commonly manifests itself, by small ulcers on the lips, the tongue, and the interior of the mouth and the secret parts. They are small pustules, filled with a purulent, whitish matter. Who contain a poison so subtle, that the smallest portion is capable of communicating the infection; to drink in a glass, to smoke a pipe infected with this venomous matter, is enough to create on the lips a little bulb filled with this same matter, which lives to be discharged, corrodes the flesh and forms a bigger ulcer.

... the ulcers appear to be healed: but soon the evil has its second period.... The larger ulcers form in the mouth, in the throat, at the parts and the base. The glands of the goiter, the armpit, are swollen and discharge some pus, often they become hard and insensible tumours, which change place as you touch them. Soon the pains are felt in the head, the shoulders, the arms, the hands, the thighs, the legs and the feet. During this time, the infected believes that it is his bones that are affected ...

The third degree of the disease can be recognized by scabby crust on the skin, which shows itself and disappears time and time again. Soon the bones of the nose rot, as well as those of the palate, the teeth, the gums; then comes the lumps

on the cranium, the clavicle, the bones of the legs, arms and the digits of the hands. We see ulcers all over the body, which disappear and reappear. Finally, the pains in the chest, difficulty breathing, a cough, the loss of appetite, hair loss, loss of eyesight, hearing, and sense of smell are all precursors to death. (Bowman, 1785)¹.

Finally, we have Dr. Robert Jones who not only provides us with a great deal of rich information on SPBD, but also gives another perspective on the identity of the disease. Dr. Jones uses the term “Molbay Disease” instead of SPBD, and he describes the symptoms as:

In general the first symptom of the Disease is a dryness of the Throat, and face, most sensibly felt in the morning, accompanied with a slight heat, but in the beginning unattended with Pain; (the absence of which-is-sometimes continued through the whole course of the disease) for some time this goes off on swallowing any liquid, which induces the Patient to relieve it by drinking frequently, in about a fortnight, small ulcerations are perceived on the tonsils, uvula, velum pendulum, tongue, &etc., which sometimes remain superficial for many weeks tho attended with a very foetid breath, and slow fever, then follow chaps in lips and nostrils with a distillation of acrimonious humour from those parts; the teeth grow carious, and the gums spongy, the ulcerations spread till they unite, and destroy the substance of the parts affected, the fever increases, accompanied either with obstinate constipation, or profuse diarrhea: The limbs waste, although the appetite continues good, often ravenous, the bones of the nose at length grow carious, the hair drops off, nodes appear on the head and shins, the lips swell violently, the stench increases till universal putrefaction ends the existence of the unfortunate sufferer....

The absence of pain sometimes during the whole course of the disease, is astonishing as I have seen the velum pendulum, and uvula entirely destroyed with nothing more of pain than a slight pricking felt by the patient (Jones, 1786:7).

¹ Several terms are defined (Woolf, 1974): *acrimonious* - harsh or biting sharpness of a language or feeling; *purulence* -containing or accompanied by pus; *pustule* -a puss-filled pimple.

These three medical opinions provide an abundance of information regarding the symptoms of SPBD. Dr. Sweddiaur's (1796) descriptions are summarized in Table 5.1, as they are for the most part based on the work of Dr. Bowman and other observers from that period (since Sweddiaur never visited Lower Canada to observe the disease first hand).

Treatment. (see summary in Table 5.1) The general treatment or preferred method of cure for SPBD was the administration of mercury. All authorities agreed on this and followed the protocol recommended for treating syphilis in the 18th century (Sweddiaur, 1796). It is worth mentioning that Dr. Jones points out that just because SPBD yields to mercury, this does not confirm a diagnosis of syphilis. As Jones points out, several other diseases respond to mercury, including "Guttae Serena¹, Strumous Tumors², and other diseases very different from any thing venereal" (Jones, 1786:12). I think that Dr. Jones' assertion that too much weight should not be put on the method of treatment as a criterion for diagnosing SPBD is crucial (especially since mercury was ineffective).

Mode of Transmission. (see summary in Table 5.1) Most of the discussion surrounding the issue of transmission and contagion is centred around the fact that SPBD was highly contagious and that its spread was facilitated by "the unhygienic habits of the

¹ Guttae Serena: is the loss or decay of sight from loss of power in the optic nerve, without any perceptible external change in the eye (Lexico, 2001).

² Strumous Tumors: is also known as goiter (Lexico, 2001).

Canadians... they use the same cup, drink from the same bucket, often borrow one another's pipe to smoke, ..." (Cochran, 1841:151). Sweddiar (1796:171) states that "the parents transmit it to their children. It is communicated by eating, drinking,... If it once enters into a family, rarely any one escapes catching it...". Bowman points out that the disease was "spreading in an alarming manner among the lower class of the inhabitants of those parishes who had not the means of procuring relief" (NAC, RG 4 B 43, vol.2). It is interesting that even though most of the physicians thought that SPBD was syphilis, no one ever identified the mode of contagion as sexual. Dr. Jones, in fact, points out that the disease was transmitted via non-venereal methods, an indicator that SPBD was not venereal in nature. According to Dr. Charles Blake, most would agree that, "In general the means of communication differ essentially from the pox given by coition" (Cochrane, 1841:152).

It is evident that the factors that affected the transmission of SPBD were very closely related to the poor and unhygienic conditions associated with the early settlers of Lower Canada. Given this, and the fact that there is virtually no mention of sexual transmission, it would seem that SPBD was not associated with venereal transmission. Together, these observations tend to support a diagnosis of endemic syphilis, not venereal syphilis.

Diagnosis. (see summary in Table 5.1) Generally speaking, the various observers describe SPBD in a similar way, especially in terms of its symptoms, treatments and transmission. However when it comes to identifying the cause of the infamous St. Paul's

Bay disease, all agree that it is syphilis except for Dr. Robert Jones. Dr. Jones did not believe SPBD was syphilis because of its non-venereal mode of transmission and because of the lack of genital lesions. These two features do not fit the venereal syphilis pattern.

He states:

Having thus endeavoured with as much accuracy as I can, to describe the Symptoms, and Progress, of this dangerous Malady, which has by some been confounded with the Venereal Disease, and by others pronounced to be only a Confirmed Pox, I shall next attempt to discriminate these two disorders, and to prove what I myself believe that they are distinct, and separate diseases, differing materially from each other, in their cause, mode of infection, and method of cure;..... (Jones, 1786:11)

Robert Jones then goes on to describe the similarities between the “Pox” and SPBD and explains why they are sometimes confused.

The Ulcerations in the Throat are alike incident to this (Pox) and to the Molbay Disease; which is I believe the chief Reason that they are so often confounded together, and when in the latter any accidental ulcers appear on the Scrotum or Penis it confirms this opinion; but shankers or warty excretions which are a very common complaint in Poxes I have never once seen in the Molbay Disease, another reason for this opinion is that Mercury which is a well known specific for the Pox, is also successful in the other disease, but Mercury has been found equally efficacious, in diseases very different from any thing venereal.

But the most unequivocal proof that the Pox and Molbay Disease are not the same, is that the former is always imbibed by impure venereal cohabitation (although it is also possible to contract it by the contact of an Ulceration in a diseased Person with an excoriation in a sound one), but the latter will frequently remain unimpaired by the Commerce of the Sexes, through the whole stage of the disease, in the last of which a woman will bear infected children to a husband who remains free from any particle of the distemper, while the innocent offspring perish, the loathsome victims of their mothers misfortune; in the same manner a man will die of the disease, while his wife surviving will feel no symptom of it, altho perhaps others living in the same house may not escape infection.
(Jones, 1786:12)

It is interesting to note that even though the other medical professionals diagnose SPBD as syphilis, they include in their statement that it is a “peculiar” or “particular” form of syphilis, which is sometimes “aggravated by the itch”. Another significant remark made concerning the diagnosis of SPBD is the observed similarity between it and the Sibbens of Scotland. This is clearly demonstrated by Sweddiar’s (1792:177) statement “the Sibbens, which several years ago was very general, but has now become much less common, is, on account of its mode of propagation, as well as on account of its symptoms and cure, so very similar to this new disease of Canada, ...”. Upon Dr. Blake’s arrival to Canada in 1776 he heard about this ‘new’ disease and took every opportunity to observe it, but no cases were found in Chaleur Bay, where he was stationed (Cochran, 1841). Finally, in 1786, when he was transferred to Montreal he examined several patients afflicted by SPBD in the nearby towns and commented on its similarity to the Sibbens (Cochran, 1841). Another doctor by the name of Mr. W. Longmore, who travelled among the Scottish hospitals and then to Canada, remarks “that a neglected venereal disease of Pox has existed and spread among individuals in remote parts where medical aid could not be obtained similar to the Sibbens which I have seen in Hospitals in Scotland from remote parts of that country...” (NAC, RG 4 B 43, vol.2:15).

These observations and diagnoses are very important because they provide a link between SPBD and Sibbens. The latter has been identified as endemic syphilis (Morton, 1967; Hudson, 1957; Pollock, 1953). Furthermore, these observations indicate that even though most medical professionals believed SPBD to be syphilis, they always included some sort of exception or complication to their diagnosis, indicating that SPBD was not a typical example of the Pox.

TABLE 5.1: Description of SPBD by Dr. Badelart, Dr. Bowman, Dr. Jones, Dr. Blake and Dr. Sweddiaur

SPBD	Dr. Badelart	Dr. Bowman	Dr. Jones	Dr. Blake	Dr. Sweddiaur
<p>Symptoms</p> <p>-primary</p> <p>-secondary</p> <p>-tertiary</p>	<p>-sore throat, dryness & then ulceration of palate, tonsils, uvula (pain)</p> <p>-white/callous ulcers at sides of tongue</p> <p>-flat, scaly pustules at root of hair and forehead</p> <p>-acute continual pains in articulations & overall feeling of illness/fatigue</p> <p>-painful swellings of periosteum, by budding exostoses, by caries of spongy laminae and of the cartilages of the nose</p>	<p>-small ulcers on lips, tongue, interior of mouth & 'secret parts'</p> <p>-small pustules</p> <p>-larger ulcers in mouth, throat,...</p> <p>-glands of goiter, armpit swollen & discharge pus</p> <p>-pain in head, shoulders, arms, hands, legs, feet</p> <p>-scabby crust on skin</p> <p>-bones of the nose, palate, teeth, gums start to rot</p> <p>-lumps on cranium, legs</p> <p>-clavicle, arms, digits</p> <p>-ulcers all over & they disappear & reappear</p> <p>-loss of hair, eyesight, hearing, sense of smell</p> <p>-cough, loss of appetite, difficulty breathing</p>	<p>-dryness of throat, face, along with fever</p> <p>-small ulcerations on tonsils, uvula, velum pendulum, tongue..</p> <p>-chaps in the lips and nostrils with leakage of harsh matter</p> <p>-teeth grow carious</p> <p>-ulcerations spread till they unite & destroy the substance of the parts affected; -fever & diarrhea increases</p> <p>-limbs waste, bones of the nose grow carious</p> <p>-hair drops off, nodes appear on head, shins & lips swell, stench increases</p>	<p>-ulceration of lips, throat & glandular parts</p> <p>-bones of nose & every part of the basis of skull is broken down</p>	<p>-little ulcers on lips, tongue, inside the mouth; rarely on genitals</p> <p>-ulcers corrosive, first as little pustules, filled with whitish purulent matter</p> <p>-large ulcers in skin or mouth diminish the violent nocturnal pains of bones</p> <p>-buboes under arm-pit, throat, and groin.</p> <p>-itching, crusts or ulcers appear/disappear in different parts of body</p> <p>-bones of nose, palatum, cranium, clavícula, tibia, arm & hand grow carious</p> <p>-cough, loss of hair, sight, hearing, smell, chest pains, all indicators of upcoming death.</p>
<p>Treatment/ cure</p>	<p>-primarily concoctions of mercury</p>	<p>-primarily concoctions of mercury & other herbs to help</p>	<p>-primarily concoctions of mercury</p>	<p>-primarily concoctions of mercury</p>	<p>-primarily concoctions of mercury & other herbs to help</p>

Table 5.1: continued	Dr. Badelart	Dr. Bowman	Dr. Jones	Dr. Blake	Dr. Sweddiour
Transmission	-facilitated by the unhygienic habits of the Canadians	-infection communicated by drinking from a glass, smoking from a pipe which are infected -the clothes, the linen, the blankets could also contain the infection and transmit it	-"non-infectious quality of the Molbay Disease by the commerce of the Sexes" -communicable sometimes by contact	-the habits of the Canadians facilitate its communication... use same cup, drink from same bucket, often borrow another's pipe -- easily communicated .- "means of communication differ essentially from the pox given by coition"	-parent to child -communicated by eating, drinking, smoking pipe, sharing linen, after an infected person has -coitus is very infectious - "it is contagious, or at least communicated without immediate contact or coition"
Diagnosis	-a peculiar venereal disease because it conceded to mercury	-a confirmed pox complicated by the itch and aggravated by neglect	-Molbay Disease or St. Paul's Bay disease -not a venereal disease or syphilis	-"nothing more than a confirmed syphilis, shewing itself in different ways in different parts of the body; making anomalous symptoms and appearances accordingly"	-syphilis or pox -very similar to Sibbens, and should be referred to as the same

Venereal Syphilis or Endemic Syphilis?

Table 5.2 is a summary and comparison of venereal and endemic syphilis to St. Paul's Bay disease, based on the descriptions written around the time of the outbreak. As can be seen, SPBD appears to be more similar to endemic syphilis both in terms of its epidemiology and clinical manifestations. SPBD seems to affect "the lower class of the inhabitants" and was a disease that mainly affected the rural communities which were poor and lived in unhygienic conditions. This aspect is more consistent with the endemic syphilis pattern of distribution than that for venereal syphilis.

The age distribution observed from the admittedly small sample of priests' reports is also more like the endemic syphilis pattern because the individuals affected with SPBD consist of people of all ages, and furthermore seems to be skewed towards individuals less than 16 years of age (see Table 4.5). In a syphilis outbreak, one would expect to find the majority of infected cases among adults (15+) and very few cases among the children (0-14) (Kipple, 1993; Guthe and Willcox, 1967). For example a study in New York (1943) revealed that only 0.4% of the total cases (4,145 individuals) were from children under 15 years old (Guthe and Willcox, 1967:46).

The method of transmission for SPBD is very similar to that of endemic syphilis. It is mostly associated with indirect and/or non-sexual contact. It is interesting that none of the records that I evaluated contained any reference to specific cases of venereal transmission of SPBD.

The next level of observation about SPBD relates to its clinical features, which is probably the most difficult analysis to make. The clinical manifestations of both endemic

TABLE 5.2: Major Features of the Treponematoses, including Venereal Syphilis, Endemic Syphilis and SPBD

Features	Venereal Syphilis	Endemic Syphilis	SPBD
Epidemiological			
Patterns of distribution: - Global - Within the state - Socio-Economic - Occurrence (within affected population) - Age group with peak incidence (yrs)	- world-wide - scattered cases - all, rich and poor - sporadic, urban - 18-30	- focal - focal - lowest grades - endemic, rural - 2-10	- Canada - Lower Canada - poor - rural - all ages, common in children
Method of transmission: -Direct person-person -sexual -non-sexual -Indirect contact -communal utensils	- usual - rare - rare (but possible)	-rare -usual, child-child, or parent-child, or child-parent -usual (utensils, pipes...)	-not mentioned -usual, adult-child, or child-parent -usual (utensils, pipes...)
Reservoirs of infection	- adults	- children	- unknown
Clinical features			
Initial lesions -location	- common - genitals	- rare - oral mucosa	- some times - oral mucosa
Late complications -gummata/ulcers -location -neurological/cardiovas.	- 35% of cases - 10-15% of cases - bone, skin, viscera - 10-15% of cases	- frequent - 25-50% of cases - bone - unknown	-frequent -common -facial bones, cranium, legs -unknown

Adapted from Turner (1959: 2 - 12), Grin (1953: 2 - 14).

and venereal syphilis overlap and, at the same time, show a lot of variation. The most notable observation to be made is that there are rarely any primary lesions in endemic syphilis, while in venereal syphilis these primary lesions are almost always present and usually located on the genitals. In SPBD there are only a few observations of genital lesions, with most initial symptoms being “small ulcers on the lips, the tongue, and the interior of the mouth”. Lastly, a vital piece of evidence is that there are often neurological or cardiovascular complications associated with venereal syphilis, but this is not thought to be a common feature in endemic syphilis, nor in SPBD.

Sibbens of Scotland

The name Sibbens comes from the Gaelic word ‘*Suibbean*’ which means raspberry (Morton, 1967). Sibbens is also referred to as ‘*Sivvens*’ or ‘*Civvens*’, which simply are phonetic variations of *Sibbens* (Morton, 1967). Another name used was ‘Scottish Yaws’, a term that came into use because sailors returning from the West Indies saw some similarities between Sibbens and yaws (Morton, 1967). However, Gilchrist (1771; as cited by Morton, 1967:376) claims that “the Scottish yaws was not the same as the tropical yaws- ‘a very different malady’”. Sibbens existed in Scotland from the mid 17th to mid 19th century and is believed to have been introduced by Cromwell’s army in 1650 (Morton 1967; Pollock, 1953). The last case of Sibbens was reported in 1851 after an epidemic broke out in Cummock, Ayrshire during the years of 1825 to 1835 (Pollock, 1953).

In 1765, Dr. Ebenezer Gilchrist presented a paper to the Philosophical Society of Edinburgh on *Sibbens* entitled, “An account of a very infectious distemper prevailing in

many places” (cited in Pollock, 1953; Morton, 1967). He goes on to describe the disease:

...it appeared in the form of small pustules which breaking left a dry crust... and ulcerated deep into the cellular membrane, or fatty part below the skin. Children mostly were the subjects of it in this form. These pustules chiefly occupied the belly, groins and sides... The ulcers usually made but small progress; being, for the most part, no bigger than the tip of one’s finger or thumb...

Still increasing in malignity, it assumed another appearance. Boils here and there, suppurating or beading, formed ulcers in different parts ... and penetrated as far as the muscles or fleshy parts, leaving them quite bare ... The lips were hard and ragged ... inflammation, soreness, were frequent. One great symptom, however must not be passed over .. An itchy tetter ...which by scratching or of itself turns raw and does not scab, but oozes an ichorous humour. ...

These sores occupy every part of the body, and many of them are seen in the same subject at the same time... From this berry-like rising the disease is said to be denominated the sivvens; sivven in the highlands, being a common name for a wild rasp.

Hitherto the disease has been confined to the lower ranks. Some, however of good condition have lost children by it, and if great care is not taken, it may find a way into the best families. The young and full grown are equally the subjects of this infection.... (Gilchrist, 1765; as cited by Pollock, 1953:433).

Many also commented on the disease’s highly communicable nature and as Paterson (1799: cited in Pollock, 1953) states: “It seldom gets into a family without infecting every person in it, and frequently spreads rapidly over a village.” Once again, it appears as though the unhygienic living conditions and habits of the people greatly contributed to the transmission of Sibbens. According to Pollock (1953) washing was a rare event, especially with soap, and the sharing of pipes, household utensils and communal cups greatly aided the infectious disease to spread. Morton (1967) also believes that Sibbens

differs substantially from syphilis with respect to its mode of transmission. In addition, Sibbens was treated using common medical practices thought to cure infectious diseases of this sort and included the use of mercury, blood-letting, purging and high temperatures (Pollock, 1953; Morton, 1967).

Both Pollock (1953) and Morton (1967) agree that Sibbens was a form of treponemal infection that more closely resembled the non-venereal or endemic forms as opposed to the venereal one. It is generally agreed that Sibbens was in fact a case of endemic syphilis. One cannot help but immediately note that the characteristics and symptoms of Sibbens were almost identical to those of St. Paul's Bay disease (see Table 5.3a and 5.3b).

TABLE 5.3a: A Comparison of SPBD and Sibbens		
Features	Sibbens	SPBD
Epidemiological		
Patterns of distribution: - Global - Within the state - Socio-Economic - Occurrence (within affected population) - Age group with peak incidence (yrs)	- Scotland - all of Scotland - poor - endemic, rural - all ages, very common in children	- Canada - Lower Canada - poor - endemic, rural - all ages, common in children
Method of transmission: -Direct person-person -sexual -non-sexual -Indirect contact -communal utensils	-rare -usual, adult-child, or child-parent -usual(utensils, pipes...)	-not mentioned -usual, adult-child, or child-parent -usual(utensils, pipes...)
Reservoirs of infection	- unknown	- unknown
Clinical features		
Initial lesions -location	- no primary lesions - oral mucosa	- some times - oral mucosa
Late complications -gummata/ulcers -location -neurological/cardiovas.	- unknown - some - bones of nose and face - unknown	-frequent -common -facial bones, cranium, legs -unknown

TABLE 5.3b: A Comparison of the Descriptions of Sibbens and SPBD

Features	Sibbens	SPBD (Dr. Bowman)
<p>Symptoms</p> <p>-primary</p> <p>-secondary</p> <p>-tertiary</p>	<p>-descriptions not divided into stages</p> <p>-hoarse and sore throat</p> <p>-ulcerations on the throat, uvula and tonsils</p> <p>-buccal mucosa and corners of mouth often affected</p> <p>-skin lesions followed, started as small pustules of a bluish-red hue with dry crust and a red edge</p> <p>-they spread, coalesced and ulcerated</p> <p>-lesion would come and go</p> <p>-sometimes a fungus or spongy substance sprouts up, looks like a raspberry or strawberry</p> <p>-destruction of the soft parts of the nasal bone, mouth and palate</p>	<p>-small ulcers on lips, tongue, interior of mouth & 'secrete parts'</p> <p>-small pustules</p> <p>-larger ulcers in mouth, throat,...</p> <p>-glands of goiter, armpit swollen & discharge pus</p> <p>-pain in head, shoulders, arms, hands, legs, feet</p> <p>-scabby crust on skin</p> <p>-bones of the nose, palate, teeth, gums start to rot</p> <p>-lumps on cranium, legs clavicle, arms, digits</p> <p>-ulcers all over & they disappear & reappear</p> <p>-loss of hair, eyesight, hearing, sense of smell</p> <p>-cough, loss of appetite, difficulty breathing</p>
Treatment/cure	<p>-primarily mercury, blood-letting, purging and excessive heat</p>	<p>-primarily a concoctions of mercury & other herbs</p>
Transmission	<p>-the habits of the people spread the disease; neglect of cleanliness, sharing of communal cups, pipes, beds...</p> <p>-use of wet-nurses</p>	<p>-infection communicated by drinking from a glass, smoking from a pipe which are infected</p> <p>-the clothes, the linen, the blankets could also contain the infection and transmit it</p> <p>-use of wet-nurse</p>
Diagnosis	<p>-disease similar to yaws and syphilis</p> <p>-others said 'one disease with syphilis' but without the primary genital sore (Bell, 1793; as cited by Morton, 1967)</p> <p>-still others mixture of syphilis and the itch (Freer, 1767; as cited by Pollock, 1953)</p>	<p>-a confirmed pox complicated by the itch and aggravated by neglect</p>

Distribution of Individuals Infected with SPBD

When discussing the distribution of the individuals infected with SPBD, there are basically two levels of analysis. The first is the distribution of the disease throughout Lower Canada and the second is the distribution of the disease within specific populations, or the prevalence of SPBD within the communities in which it occurred.

Referring to Figures 4.1, 4.2 and 4.3, along with Table 4.1, many observations and conclusions can be drawn. The maps show that SPBD was spread across Lower Canada. There are few detectable patterns in the outbreak. One noteworthy and unusual feature of the geographical distribution is that few if any cases of SPBD occurred in the larger, urban centres, such as Quebec and Montreal. This is unusual because if SPBD were venereal syphilis, then a high proportion of infected individuals would be expected to appear in the cities; however, this is not the case. The highest percentage of people infected are found in rural communities: St. Paul's Bay (22.9%), Little River (19%), Yamaska (17.2) and Deschambault (15.5%), while Montreal (0.1%) and Quebec (0.0%) are found at the lower end of the scale. The areas with the higher percentages of infected people come mostly from rural areas, which seems to better fit the profile of endemic syphilis.

Indirect standardisation was used to estimate the age-specific prevalence of SPBD among the affected population of Lower Canada by parish (see Table 4.5). As can be seen from Table 4.5, the prevalence of SPBD is slightly higher for the 16+ age group. For example, in the District of Quebec the <16 age group has an average prevalence of 5.3%, while the 16+ cohort is 6.5%. In the District of Trois-Rivières a prevalence of 5.2%

among children and 5.9% among adults is noted and finally, the Montreal district shows a prevalence of 6.3% and 7.4%, respectively. This indicates that not only was the disease affecting children as well as adults but also that younger individuals seem to have been more heavily affected, because the adult category (16+) represents a huge age range. If this large age group were broken down into more age groups, this would bring the rate of prevalence down significantly. Unfortunately, due to the limitations of the data, a finer analysis is not possible.

These results tend to indicate that SPBD is more likely to be endemic syphilis than venereal syphilis, because of the high proportion of children (<16) who were infected. If these results are compared to those of modern endemic syphilis epidemics and venereal syphilis outbreaks, the resemblance is quite obvious (see Table 5.4). The table shows that the percentage of children infected by endemic syphilis in the Sudan between 1958-1959 ranges from a low of 12.1% in the town of Dago (which is in the Nasir District), to a high of 50.2% in the dispensary of Sokau (also in the Nasir District) (Grin, 1961). The adult groups in these areas also have huge rates of infection ranging from 27% to a high of just under 50% in some areas. This is expected since most of the children infected will grow up to become infected adults. It is important to appreciate that endemic syphilis is described as a childhood disease because this is when the disease is usually acquired, and it is by this mechanism that it thrives in a community. The high rate of infection among children is a major distinguishing factor between venereal and non-venereal syphilis. For example, during venereal syphilis outbreaks the percentage of children infected is very

low, such as in the case of an epidemic of syphilis that broke out in New York city in 1943. Here, only 0.4% of the infected population was below the age of 15, while the percentages increased dramatically with age (14.8% in those 15-19 and 32.4% for those between 20-24 years of age) (Guthe and Willcox, 1967). The age-specific prevalence data indicate that SPBD is more likely to have been endemic rather than venereal syphilis.

Another study conducted by Csonka (1952) shows that *Bejel*, which is found mainly in the Arabs of Iraq and Syria, 25% of individuals acquire the disease before the age of six and an incredible 66% before the age of 16. He also reports that the infected range in age from five months to 75 years old (Csonka, 1952).

Table 5.5 compares the age distribution of SPBD to endemic syphilis outbreaks in Burkina Faso and Bosnia. The WHO (1986) report on Burkina Faso, indicates that the clinical prevalence of endemic syphilis in Burkina Faso was 5.7% in children between the ages of 5 and 14, while in adults (over 15) the rate was 5.5%. In Bosnia, the prevalence is just under 9% among children (<15) and 16.4% among adults (15+). These modern instances of endemic syphilis suggest yet another link between SPBD and endemic syphilis.

Table 5.4: Distribution of SPBD and Other Endemic and Venereal Syphilis Outbreaks Among Adults and Children		
Outbreak	Percentage of Cases in Infected Adults (15+)	Percentage of Cases in Infected Children (<15)
SPBD: Lower Canada	57.5% (16+)	42.5% (<16)
Venereal Syphilis: New York ³	99.6% of cases in a study population of 4 145.	0.4% of cases in a study population of 4 145 .
Endemic Syphilis -Sudan ⁴ -Sokau -Kigille -Waat -Dago	49.8% of cases 74% of cases 62.3% of cases 87.9% of cases	50.2 % of cases 26% of cases 37.7% of cases 12.1% of cases

Table 5.5: Prevalence by Age of SPBD, Endemic syphilis in Bosnia & Burkina Faso		
Outbreak	Prevalence among Adults (15+)	Prevalence among Children (<15)
SPBD: Lower Canada	7.4 % (16+)	6.3% (<16)
Endemic Syphilis -Bosnia ⁵ -Sapna -Burkina Faso ⁶	16.4% 5.5%	8.4% 5.7%

³ Guthe and Willcox, 1967:46. Percentages based on a population of 4 145 infected Individuals.

⁴ Grin, 1961, see Figure 2.3.

⁵ Grin, 1956.

⁶ WHO, 1986.

CHAPTER VI

Conclusions

The primary goal of this thesis is to evaluate all the material available in order to determine whether or not St. Paul's Bay disease could have been endemic syphilis. I believe that this has been accomplished using multiple lines of qualitative and quantitative evidence. This final chapter summarizes the evidence and presents an argument that supports my contention that SPBD was not venereal syphilis, but rather endemic syphilis.

As mentioned in the introduction, several authors have written about St. Paul's Bay disease since it was first identified in the 1770's. All have identified SPBD as syphilis, primarily based on Cochran's (1841) report. Of these, only Riddell (1924) and Lessard (1989), actually consulted the primary sources, a situation that undoubtedly contributed to the misinterpretation of the disease. My reading and re-analysis of the original documents led me to conclude that SPBD was not venereal syphilis.

Description of SPBD

According to the descriptions of the disease that were written around the time of the outbreak and, in some cases based on first hand observations, the weight of the evidence lies on the side of endemic syphilis. The descriptions of SPBD include the symptoms, the transmission and the method of treatment from various observers and are summarized in Table 5.1. The symptoms described by doctors Badelart, Bowman, Jones, Blake and Sweddiaur are very similar, and furthermore resemble the characteristics of

endemic syphilis (Table 5.2). They all identify three stages in the development of the disease and claim that primary lesions did exist. However, according to Grin (1953), primary lesions are rare in endemic syphilis, and if they occur they are found in the mouth, lips, genitalia and nipples. This does not disqualify SPBD from a diagnosis of endemic syphilis because upon close examination of the symptoms for the primary and secondary stages (Table 5.1), one notices that they are very similar. In fact, it is possible that the doctors of the time were describing the secondary characteristics of endemic syphilis rather than the primary ones. Most significantly, the lack of genital lesions, which are very common in venereal syphilis, coupled with the presence of many oral ulcers and pustules around the mouth, would indicate that SPBD more closely resembles endemic syphilis.

Mercury was the main method of treatment for SPBD and virtually all skin disorders during the 18th century. Other treatments were available but mercury was believed to be the most effective. Unfortunately, the use of mercury does not support either a diagnosis of endemic or venereal syphilis. It only confirms that the physicians of that time were treating SPBD as if it were syphilis.

SPBD was observed to be transmitted through the use of common utensils and drinking vessels, aggravated by the unsanitary and impoverished living conditions in Lower Canada. Significantly, there is no mention of SPBD being transmitted through sexual relations. There nevertheless was a great deal of shame and stigma attached to it because of its resemblance to venereal syphilis. The fact that venereal syphilis is almost always transmitted sexually, while endemic syphilis is transmitted through unhygienic

practices and poor living conditions supports the assertion that SPBD is endemic syphilis.

Lastly, the physicians of the time period perhaps unknowingly supported the diagnosis of endemic syphilis. None simply state unequivocally that SPBD is syphilis; their diagnoses are always followed by some sort of a qualifier, such as a “particular type” or “peculiar form” or “complicated by the itch” which suggests that SPBD was not the “classic” form of venereal syphilis. In fact, according to Grin (1956) and Engelstein (1986), many endemic syphilis epidemics are first described as outbreaks of venereal syphilis, complicated by the itch or some other disease, because the pattern and characteristics of the disease do not totally fit a diagnosis of venereal syphilis.

Similarity of SPBD to ‘Sibbens’

When one studies the descriptions of the Sibbens from Scotland and compares it to SPBD, it is very difficult not to feel a sense of ‘déjà vu’ (Table 5.3a and 5.3b). The two diseases are so similar that it is easy to understand why so many observers described SPBD as nothing more than the Sibbens. This is yet another weight tipping the scales towards the side of endemic syphilis. The fact that Sibbens has been shown to be an example of an endemic syphilis outbreak, in turn supports the assertion that SPBD was not venereal syphilis (Pollock, 1953; Morton, 1967).

Distribution and Prevalence of the Infected

The distribution and prevalence of SPBD prove to be more like that of endemic syphilis than venereal syphilis. Through the use of maps (Figure 4.1, 4.2 & 4.3) and Table 4.1 it has been demonstrated that not only was SPBD spread throughout the entire

Province of Quebec but furthermore that it was rare, if present at all, in the urban centres. If SPBD were in fact venereal syphilis then one would expect to find a much larger proportion of the infected population in these cities. However, endemic syphilis is expected to affect people in rural communities who more often live in poorer conditions.

It was demonstrated that SPBD showed no sex bias. This does not support either the endemic or the venereal case. A difference in prevalence by sex is not expected for either of these treponemal infections but can occur if certain conditions make one sex more susceptible to infection.

When the prevalence of SPBD by age group was estimated, a high percentage of children were found to be infected throughout the Province of Quebec. In St. Pierre, for example, out of 91 infected individuals, 43 were under the age of 16 (see Table 4.4 and 4.5). The prevalence for the children (<16) was determined to be 6.3% compared to 7.4% for the adults (16+). This age distribution is certainly not indicative of venereal syphilis.

All in all, this study has demonstrated that: 1) re-assessing and returning to the primary sources is a crucial component of research; 2) it is important to challenge current theories and ideas; 3) using the clinical and epidemiological features of a disease, along with comparative studies can provide a valid diagnosis, and finally, 4) the various lines of evidence considered in this study tend to support a diagnosis of endemic syphilis for St. Paul's Bay disease.

Contributions to the Literature

The St. Paul's Bay Disease outbreak of the late 18th century has been discussed in the literature by a number of authors (Sweddiar, 1796; Cochran, 1841; Riddell, 1924; Heagerty, 1928; Gauvreau, 1931; Gaumont, 1942; Tremblay, 1956; Desjardins, 1973; LeBlond, 1977; Lessard, 1989). However, this thesis provides a new and fresh assessment of the events associated with the outbreak. This was accomplished by returning to and re-evaluating the primary sources which had not been rigorously examined before. Furthermore, by studying the "Etat de Guérison" it was possible to not only get a different perspective on SPBD but also to undertake quantitative analysis of the distribution and prevalence of SPBD by age and sex. No other researchers have taken this approach to understanding the outbreak. Therefore, a major contribution of this thesis to the literature resides in providing a complete account of the SPBD outbreak, while extracting all pertinent information from the primary sources. This thesis went one step further than other studies by re-assessing the SPBD outbreak, the primary sources, and the conclusions drawn by others. This allowed for a conclusion differing from all previous authors: that St. Paul's Bay disease was more likely to have been endemic syphilis, rather than the accepted diagnosis of venereal syphilis.

On a larger scale this study adds to the knowledge about the history of treponemal infections in Canada and in the world. Endemic syphilis is often claimed never to have been prevalent in the Western hemisphere (Ortner and Putschar, 1985; Hudson, 1957; Grin, 1953). This thesis demonstrates that this was certainly not the case.

Future Research

If we want to fully understand the SPBD outbreak it would be very beneficial for future research to be carried out in three major areas: the ethnohistory of the various towns in Lower Canada, the origins of SPBD, and lastly, why the disease 'suddenly' disappeared. Ethnohistorical study is crucial because we simply do not have sufficient information on the socio-economic status and living conditions prevalent in Lower Canada before, during and after the outbreak. The origins and 'sudden' disappearance of SPBD from the archival record also needs to be explored further. It is unclear whether or not SPBD was present for some years before its first description in 1773 or why is there no mention of SPBD in the archival records after the late 1780's (other than with reference to Dr. Bowman's claim).

These areas of research would provide valuable information which would bring us one step closer both to understanding this outbreak and the history of treponemal infections in human populations.

APPENDIX A: STD Rates in Canada:1993-1999.

Reported Infectious Syphilis ¹ Cases and Rates ² in Canada by Province and Sex, 1993-1999															
Year			Total*	Province/Territory											
				NF	PEI	NS	NB	QU	ON	MB	SK	AL	BC	YT	NWT
1993	Cases	Male	104	0	0	6	0	13	65	2	3	5	8	0	0
		Female	79	0	0	9	0	7	55	1	2	1	3	0	0
		Total	188	0	0	15	0	20	125	3	5	6	11	0	0
	Rate	Male	0.7	0.0	0.0	1.3	0.0	0.4	1.2	0.4	0.6	0.4	0.6	0.0	0.0
		Female	0.5	0.0	0.0	1.9	0.0	0.2	1.0	0.2	0.4	0.1	0.2	0.0	0.0
		Total	0.6	0.0	0.0	1.6	0.0	0.3	1.2	0.3	0.5	0.2	0.3	0.0	0.0
1994	Cases	Male	115	0	0	11	3	18	55	3	11	5	9	0	0
		Female	71	1	1	13	4	2	35	1	7	3	3	1	0
		Total	191	1	1	24	7	20	93	4	18	8	14	1	0
	Rate	Male	0.8	0.0	0.0	2.4	0.8	0.5	1.0	0.5	2.2	0.4	0.5	0.0	0.0
		Female	0.5	0.3	0.3	2.7	1.0	0.1	0.6	0.2	1.4	0.2	0.2	6.9	0.0
		Total	0.7	0.2	0.2	2.6	0.9	0.3	0.9	0.4	1.8	0.3	0.4	3.4	0.0
1995	Cases	Male	90	1	0	1	1	6	58	3	9	3	8	0	0
		Female	55	0	0	0	0	7	34	1	10	1	2	0	0
		Total	145	1	0	1	1	13	92	4	19	4	10	0	0
	Rate	Male	0.6	0.3	0.0	0.2	0.3	0.2	1.1	0.5	1.6	0.2	0.4	0.0	0.0
		Female	0.4	0.0	0.0	0.0	0.0	0.2	0.6	0.2	2.0	0.1	0.1	0.0	0.0
		Total	0.5	0.2	0.0	0.1	0.1	0.2	0.8	0.4	1.9	0.1	0.3	0.0	0.0
1996	Cases	Male	74	0	0	1	0	11	41	1	4	0	16	0	0
		Female	49	0	0	2	0	1	37	0	6	0	3	0	0
		Total	123	0	0	3	0	12	78	1	10	0	19	0	0
	Rate	Male	0.5	0.0	0.0	0.2	0.0	0.3	0.7	0.2	0.8	0.0	0.6	0.0	0.0
		Female	0.3	0.0	0.0	0.4	0.0	0.0	0.7	0.0	1.2	0.0	0.2	0.0	0.0
		Total	0.4	0.0	0.0	0.3	0.0	0.2	0.7	0.1	1.0	0.0	0.5	0.0	0.0
1997	Cases	Male	67	0	0	0	0	4	29	0	1	4	29	0	0
		Female	49	0	0	1	0	4	20	0	1	4	19	0	0
		Total	116	0	0	1	0	8	49	0	2	8	48	0	0
	Rate	Male	0.4	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.2	0.3	1.5	0.0	0.0
		Female	0.3	0.0	0.0	0.2	0.0	0.1	0.3	0.0	0.2	0.3	1	0.0	0.0
		Total	0.4	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.2	0.3	1.2	0.0	0.0
1998	Cases	Male	101	0	0	1	0	3	22	2	0	6	67	0	0
		Female	66	0	0	1	0	1	18	1	0	0	45	0	0
		Total	167	0	0	2	0	4	40	3	0	6	112	0	0
	Rate	Male	0.7	0.0	0.0	0.2	0.0	0.1	0.4	0.4	0.0	0.4	3.4	0.0	0.0
		Female	0.4	0.0	0.0	0.2	0.0	0.0	0.3	0.2	0.0	0.0	2.2	0.0	0.0
		Total	0.5	0.0	0.0	0.2	0.0	0.1	0.4	0.3	0.0	0.2	2.8	0.0	0.0
1999	Cases	Male	113	0	0	1	0	2	38	0	0	1	71	0	0
		Female	74	0	0	0	0	2	17	0	0	0	55	0	0
		Total	187	0	0	1	0	4	55	0	0	1	126	0	0
	Rate	Male	0.7	0.0	0.0	0.2	0.0	0.1	0.7	0.0	0.0	0.1	3.6	0.0	0.0
		Female	0.5	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	2.7	0.0	0.0
		Total	0.6	0.0	0.0	0.1	0.0	0.1	0.5	0.0	0.0	<0.1	3.1	0.0	0.0

¹ Infectious syphilis: early symptomatic (primary and secondary) syphilis + early latent syphilis
² Rate per 100,000 population. Population estimates provided by Statistics Canada
* Totals include cases not specified for sex.

Source: Division of Sexual Health Promotion and STD Prevention and Control, Bureau of HIV/AIDS, STD & TB, Health Canada, 2001

APPENDIX B: Sample of Transcribed "Etat de Guérison pour la maladie de la Baie St. Paul"

Etat de Guerison pour la Maladie de la Baie St. Paul. Paroisse de St. Cuthbert October, 9th, 1786									
Fam.#	Num.	Surname	Given	Age	Cured				Observations
					M	F	M	F	
1	1	Rivart	Jos.	24	1		1		they claim to be cured
	2		His wife	23		1		1	ditto
	3		Leurniere	8		1		1	ditto
2	4	La pierre	Jean	20		1		1	ditto
	5		Cath.	9		1		1	ditto
	6		J.M.	6	1		1		ditto
3	7	Barnivant	M.	21	1		1		ditto
	8		His wife	25		1		1	ditto
	9		Gen.	4		1		1	ditto
4	10		Dan.	2	1		1		ditto
	11	Turcot	J.D.	41	1		1		ditto
	12		His wife	27		1		1	ditto
	13		Marg.	16		1		1	ditto
	14		J.D.	12	1		1		ditto
	15		Pelagie	8		1		1	ditto
	16		Jolephe	4		1		1	ditto
5	17		Pierre	2	1		1		ditto
	18	Trappier	Etien	52	1		1		ditto
	19		His wife	57		1		1	ditto
6	20		Little girl	11		1		1	ditto
	21	Danet	Jos.	29	1		1		ditto
	22		His wife	24		1		1	ditto
	23		Jos.	12	1		1		ditto
	24		Pierre	12	1		1		ditto
	25		Michel	11	1		1		ditto
	26		Francois	9	1		1		ditto
	27		Jos.	8		1		1	ditto
	28		Marie	5		1		1	ditto
	29		Victoire	4		1		1	ditto
7	30		Valentin	2	1		1		ditto
	31	Govreau	Aug.	66	1		1		ditto
	32		His wife	28		1		1	ditto
8	33		M.	5		1		1	ditto
	34	Turcot	Al.	77	1		1		ditto
	35		His wife	77		1		1	ditto
	36		Girl, they take care o	4		1		1	ditto
9	37	Lepine	J.D.	50	1				not yet cured
	38		His wife	49		1			ditto
	39		J.D.	22	1				ditto
	40		Cath.	19		1			ditto
	41		Therese	18		1			ditto
	42		Jos.	15	1				ditto
	43		Fr.	12	1				ditto
	44		Amal	8		1			ditto

APPENDIX B: (continued)

	45	Young gir	2	1		ditto
10	46 Ayot	Mme.	51		1	ditto
	47	Cath.	25		1	ditto
	48	Therese	25		1	ditto
	49	Louis	5	1		ditto
11	50 Dubois	J.D.	72	1		ditto
	51	His wife	51		1	ditto
12	52 Maillout	?	51	1		ditto
	53	His wife	54		1	ditto
	54	Louis	16	1		ditto
	55	Marie	8		1	ditto
13	56 Mailleau	?	26	1		ditto
	57	His wife	17		1	ditto
14	58 Turcot	Al.	27	1		ditto
	59	His wife	24		1	ditto
15	60 Clement	J.D.	26	1		ditto
16	61 Lepine	Ant.	27	1		taking medicine
	62	His wife	22		1	ditto
17	63 Mair	Jac.	24	1		ditto
	64	His wife	21		1	ditto
	65	Marie	14		1	ditto
	66	Gen.	12		1	ditto
	67	Magd.	11		1	ditto
	68	Therese	7		1	ditto
	69	Anne	5		1	ditto
	70	Jos.	5	1		ditto
18	71 Neul	Jos.	57	1		ditto
	72	His wife	59		1	ditto
	73	Jos.	25	1		ditto
	74	His wife	20		1	ditto
	75	Charl.	21	1		ditto
19	76 Doute	Ch.	22		1	ditto
20	77 No?	J.D.	49	1		did not present
	78	His wife	48		1	themselves
	79	J.D.	16	1		ditto
	80	L.	14	1		ditto
21	81 Alart	Jean	26	1		ditto
	82	His wife	29		1	ditto
	83	Jean	8	1		ditto
	84	Eliz.	5		1	ditto
22	85 Plante	Jol.	52		1	ditto
23	86 ??	Al.	25	1		ditto
	87	J.D.	19	1		ditto
24	88 Goulet	Mme.	52		1	ditto
	89	Ant.	22	1		ditto

APPENDIX B: (continued)

	90		Jol.	7		1		ditto
25	91	Ledain	Jean	59	1			ditto
	92		His wife	49		1		ditto
	93		J.D.	24	1			ditto
	94		Amal	22	1			ditto
	95		Eliz.	17		1		ditto
	96		Jol.	15		1		ditto
	97		Jos.	9	1			ditto
	98		Denis	6	1			ditto
26	99	Doulet	Ant.	18	1			ditto
	100		His wife	22		1		ditto
27	101	Jacques	Ant.	24	1			did not present
	102		His wife	22		1		themselves
	103		Jos.	10	1			ditto
	104		L.	18	1			ditto
	105		Pierre	8	1			ditto
	106		Magd.	7		1		ditto
	107		Gen.	5		1		ditto
28	108	Lafrenier	Jos.	58	1			ditto
	109		His wife	58		1		ditto
	110		aug.	17	1			ditto
	111		Gen.	15		1		ditto
29	112	Denis	F.	22	1			ditto
	113		His wife	19		1		ditto
	114		Dan.	19	1			ditto
	115		Gen.	1		1		ditto
30	116	Denis	Jos.	60	1			ditto
	117		His wife	51		1		ditto
	118		Jos.	29	1			ditto
	119		Al.	22	1			ditto
	120		Gen.	21		1		ditto
	121		J.D.	17	1			ditto
	122		Pierre	14	1			ditto
	123		Cuthb.	12	1			ditto
					M	F	M	F
Avg. Age				23.7	62	61	16	20
Max. Age				77				
Min. Age				1				

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