

Canada's First Engineer Jean Bourdon (1601-1668)

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The Romans, of ancient Rome, urged by military necessity, built bridges, roads and walls. The period of their engineering activity extended over nearly six centuries.¹ For centuries, thereafter, the notion persisted in Europe that engineering was a military art. The notion lasted longest in those countries, like France and England, whose communications had been opened up by Roman military engineers. It was not until the second half of the eighteenth century that civilians in England asserted their right to practise engineering, and it was only then that the term "Civil Engineer" was coined.

In Italy, civilian engineers became common in the fifteenth century. Among the first was Leone Battista Alberti (1404-1472), who dredged the river Anio, repaired the Acqua Vergine aqueduct, fortified four Roman bridges, and restored the walls of the Papal City.² Following Alberti, there sprang up in all the great cities of Italy distinguished and colorful engineers, such as Fioravante (c. 1417-1486), Valturio (c. 1420-1489), Francesco Martini (1439-1502), Giuliano Sangallo (1451-1516) and Leonardo da Vinci (1452-1519).³

In 1483, Leonardo da Vinci applied for a job with Lodovico Sforza, ruler of Milan. In his letter of application, he devoted ten paragraphs to his attainments as an engineer, and added a final paragraph on what he could do in the way of painting. Ducal documents show that he received an appointment as *ingenarius et pinctor*.⁴

¹ Work on the Via Appia commenced in 312 B.C.; the Aurelian Wall was completed in 280 A.D.

² Alberti would have done much more but for the death, in 1455 of his patron Pope Nicholas V (L. Pastor, *The History of the Popes*, vol. 2, [1923], p. 177). The river Anio is now known as the Aniene.

³ Ridolfo di Fioravante ended his days engineering in Moscow in the service of the Grand Duke Ivan III (H. Straub, *A History of Civil Engineering*, London, 1952, p. 84). Roberto Valturio's book on fortifications was the first technical book to appear in print (G. Sarton, *An Introduction to the History of Science*, vol. 3, [1948], p. 1552).

⁴ I. Calvi, "Military Engineering and Arms" in *Leonardo da Vinci*, by various authors, English translations, Reynal and Co., New York, 1956, p. 281. The use of the Latin word *ingenarius* to denote an engineer has been traced back to the

Leonardo was engaged on the supervision of waterways when the French captured Milan in 1499. He freely entered the service of King Louis XII. Twenty years later he died in France, a loyal servant of King Francis I.⁵

The French were slow in following the leader who came to them. They had to await a man of vision. When Sully (1560-1641), as Baron Rosny, was appointed Superintendent of Finances, he determined to build a network of roads and canals, and to bring up to date the fortifications on France's frontiers. He persuaded Henry IV to agree to the appointment of engineers-in-ordinary to the king; Jean Errard, a mathematician, was named chief engineer, with the title *Premier Ingénieur*. That was in the year 1599. The following year, Errard published his book: *La Fortification réduite en art et démontrée*, and earned for himself the sobriquet: "Father of French Fortification."⁶

Sully's régime brought to France an era of prosperity and hope. Schools started stressing the practical applications of mathematics. Students were introduced to astronomy, hydrography, surveying, and statics. Amongst those who profited by their schooling between the years 1600 and 1620 were the distinguished mathematicians, Mersenne, Gassendi, Desargues, Descartes and Fermat. A more average product of secondary education was Nicholas Sanson, who initiated the school of French geographers.⁷ Sanson attended the Jesuit school at Amiens, until he was about eighteen, then he devoted nine years to the delineation of his map of ancient Gaul, which won for him the notice and admiration of Louis XIII. He was commissioned to design fortifications for his native town of Abbeville. He was made a Councillor of State, became a favorite of Louis XIII, and continued to enjoy royal patronage under Louis XIV.

This was the world into which the subject of our paper, Jean Bourdon (1601-1668) was born. He was born the same year as Fermat, a year after Sanson.⁸ He was born in Rouen. It is probable that he was educated by the

twelfth century. The Italian word *ingegnere* came later. Then came the French word *ingénieur* and, still later, the English word *engineer* (H. Schimank, "Das Wort 'Ingenieur' abkunft and Begriffswandel," in *Zeitschrift des Vereins Deutscher Ingenieure*, Bd. 83, Nr. 11, [18 März, 1939], pp. 325-331).

⁵ L. Mabileau, "Leonardo in France," in *Leonardo da Vinci*, by various authors, English translation, New York, p. 143.

⁶ "Le Père de la Fortification française" (*Larousse du XX^e siècle*, vol. 4, [1930], "Errand").

⁷ R. V. Tooley, *Maps and Mapmakers*, 2nd edit., London, 1952, p. 40.

⁸ Bourdon was 65 according to the census of the year 1666. F. Blanchet, Chief Archivist of the Prefecture of Seine-Maritime, informed the present writer (1st February, 1957) that all searches for the baptismal record of Jean Bourdon had been fruitless. Records for the 17th century in Rouen are incomplete due to depredations during the days both of the Revolution and the Directory.

Jesuits at Rouen.⁹

As Bourdon grew, he saw the fur trade in Rouen grow, until the city became the legal and financial centre of all trade with New France. The law of Rouen, *la coutume de Rouen*, was followed in Quebec. The Parlement of Rouen adjudged that it had jurisdiction in all legal squabbles involving New France. It was with the hope of weakening the power of Rouen that Richelieu decreed that six of the twelve directors of the Company of New France should be residents of Paris.

As the fur trade grew in Rouen, so did the taste for the finer things of life decline. In 1629, Corneille (five years younger than Bourdon) resigned his position in Rouen, as Advocate of the Admiralty, and sought to carve out a career for himself in Paris. There are some indications that Bourdon also moved to Paris, where de Ville, Errard's successor, ranked as *Premier Ingénieur*, and was highly rated for his book *Les Fortifications* (Lyons, 1629). It was Bourdon who introduced to Quebec the custom of parcelling out lands according to *la coutume de Paris*. Furthermore, when he arrived in Quebec, on the 8th of August, 1634, there were five Jesuits there, all of whom had spent some time in Rouen since Bourdon's school days, and there is no evidence that he had ever met any of them before he embarked for Canada.¹⁰ There is evidence that he came to New France prepared to live his life without dependence on the Jesuits. He landed in Quebec with a secular priest, Abbé Jean Le Sueur (1600-1668).¹¹ Bourdon built a chapel on his property in Quebec in which the Abbé said Mass. In the will which Bourdon made in 1664 he left to Abbé Le Sueur, amongst other bequests, the chapel, and gave reason for remembering his friend, as follows:

For thirty years we have been united in perfect friendship, and for twenty two years, or so, he has lived in my home, with an interest in all that regarded me. He instructed my children in the fear of God, taught them to read and to write, and did me the honor of saying Mass in the aforementioned chapel of Saint Jean.

Bourdon came to Canada as Engineer of the Company of New France. He did not come as an adventurer nor to seek his fortune. He came with a job

⁹ The Jesuit school in Rouen, with 1968 students, had, in 1627, a larger enrollment than any other Jesuit school in France (*Synopsis historiae Societatis Jesu, Louvain*, 1950, col. 171).

¹⁰ The five Jesuits were Fathers Le Jeune, Massé, De Noue, Buteux and Chas. Lallemand. (These last two had sailed in a ship of the same fleet that brought Bourdon, but both reached Quebec before him.) There were five other Jesuits in Canada: Fathers Brebeuf, Daniel and Davost on their way to Ontario; Fathers Richard and Perrault in Nova Scotia.

¹¹ The Abbé Le Sueur was from the diocese of Sees, in which was the famous shrine of Our Lady of Recovery, so dear to Champlain.

to do. His attitude was always very professional, and non-partisan. He served under eight Governors.¹² His probity led to his becoming the most respected man in Quebec, and to his ending his days as *Procureur du Roi*. Before he was *procureur*, Saint Isaac Jogues referred to him as the “Engineer of New France,” *Ingénieur de la Nouvelle France*, and Father Jérôme Lalemant wrote of him as the “Engineer to the Governor,” *Ingénieur de Monsieur le Gouverneur*.¹³

As Engineer to the Company of New France, Bourdon’s first interest was Tadoussac. The annual fleet from France to New France anchored at Tadoussac at the end of May, 1634. Most of the passengers disembarked and hastened to Quebec by barks and shallops.¹⁴ Bourdon and the Abbé Le Sueur remained three months at Tadoussac, with a ship as their home.¹⁵ During the course of this first summer, Bourdon collected the data necessary to draw a map of this district. Some time later, an Indian chief from Tadoussac passed through Quebec, and when questioned as to where he was going, amazed his interrogators by asking for pencil and paper, and sketching the St. Lawrence with its tributaries above Quebec. It is presumed that he was imitating what he saw Bourdon do at Tadoussac.¹⁶

When Bourdon arrived at Quebec, on August the 8th, 1634, his position as Engineer of New France, was a delicate one. Champlain had, all his life, been used to being his own engineer. Bourdon showed prudence, and Providence was on his side. First of all he asked Champlain for a piece of land, to which he was entitled as a settler, and then permission to build himself a house. Champlain let him chose his own land. He chose the highest ground on the hillock later known as Sainte-Geneviève. He cleared the land and built a house. When he finished it with stucco, it was a white house. He called it “Saint-Jean.” How unknown Bourdon was to the inhabitants of Quebec is indicated by the fact that for some time he was spoken of as “The Monsieur of Saint-Jean.”¹⁷

In the *Relation* written by Father Le Jeune for 1634-1635, there is no report of work done at Quebec in the summer of 1635. The supplies, which were expected in May did not begin to arrive until July 10th, and it was

¹² Champlain, Montmagny, Ailleboust, Lauzon, Argenson, Avaugour, Mézy, and Courcelles.

¹³ JRT, 28, p. 137 and JRT, 31, p. 108, that is, *The Jesuit Relations and Allied Documents*, edited by R. G. Thwaites, Cleveland, 73 vols., 1896-1901, vol. 28, p. 137 and vol. 31, p. 108.

¹⁴ JRT, 7, pp. 210, 212.

¹⁵ In 1634, there was no residence at Tadoussac (JRT, 21, p. 92).

¹⁶ JRT, 12, p. 152

¹⁷ A. Gosselin, *Jean Bourdon et son ami l'Abbé de Saint-Sauveur*, Quebec, 1904, p. 67.

mid-August when the last of the ships reached Tadoussac. They had been delayed, first by very rough weather, and then by numerous icebergs.¹⁸ Two weeks later, the outgoing ships had left Quebec.¹⁹ Shortly after the departure of the ships, Champlain suffered a stroke; he never recovered; he died on Christmas Day 1635. The very next ship into Quebec brought Montmagny as Governor of New France.²⁰

With the arrival of Montmagny, Bourdon came into prominence. He accompanied Montmagny on his official journeys.²¹ Only three days after Montmagny arrived, he was with Bourdon staking out the location of a new fortress.²² In the months following, Quebec was a hive of constructional activity. Not only was the new fortress commenced, – the foundations being laid with stone, brick and mortar – but the redoubt which Champlain had constructed (before the advent of Kirke in 1629) was being repaired. The number of cannons was increased, and the platform on which they rested was raised. The chapel of Our Lady of Recovery, which Champlain had built, was enlarged. And town planning was introduced. “The outlines of a town are being drawn up,” wrote Father Le Jeune, “in order that future building shall be done systematically.”²³ Montmagny stipulated that the location of buildings and limits of land grants were subject to Bourdon’s approval; and he stuck rigidly to this principle.²⁴ In this busy summer of 1636, time was found to improve the trading post at Trois Rivières. A storehouse and two bunk-houses were built, and cannon emplaced.

When their summer work was done, Bourdon and Montmagny set out to see as much more of New France as they could. They sailed up the St. Lawrence, along its south shore. When they reached the mouth of the Richelieu River, which, they had been told, was the avenue from the Iroquois country, they stopped and made a survey. They then proceeded to the island of Montreal, and went up, in turn, the St. Lawrence as far as the Lachine rapids, and both the Rivière des Prairies and the Rivière des Mille Isles, as far as a shallop could go. They returned along the north side of the St. Lawrence, inspected the work at Trois Rivières, and were back at Quebec

¹⁸ JRT, 8, pp. 44 and 60.

¹⁹ JRT, 8, p. 62.

²⁰ Montmagny’s ship cast anchor before Quebec on the night of June 11, 1636 (JRT, 8, p. 216).

²¹ Neither R. G. Thwaites (JRT, 9, p. 306, n. 7) nor B. Sulte (*Histoire des Canadiens-Français*, 1608-1880, 8 vols., Montreal, 1882, vol. 2, p. 81) recognised “Monsieur de Saint-Jean” (JRT, 9, p. 48) as Bourdon. Nor did they understand that the seeming disappearance of this gentleman in 1641 was due to Bourdon’s having gone to France on business.

²² JRT, 9, p. 48.

²³ JRT, 9, p. 136.

²⁴ JRT, 28, p. 206.

twenty-four days after they had left. Ten days later, they left by bark for Beaupré. They had intended to spend three or four days there, but, because of unfavorable winds, extended their stay to thirteen days.²⁵ Bourdon had ample opportunity to gather the data for the map which he drew, in 1641, of the coast of the St. Lawrence from Quebec to Beaupré.²⁶

It is typical of the *Relations* written by Father Le Jeune that in them there is no mention of Bourdon except as the subject of an edifying story.²⁷ In Father Le Jeune's record of the occurrences in the Spring of 1637, Bourdon figures twice. On the night of the feast of Saint Joseph there was a display of fireworks. Father Le Jeune had seldom seen anything more artistic in France. The most original feature was a mechanical device contrived by Bourdon.²⁸ Father Le Jeune was so impressed by it that he sent a sketch of it to be inserted at "page 19 of the *Relation*," which it was.²⁹

Shortly after Saint Joseph's day, Bourdon left, with an interpreter, for the Isle de Jésus, to appraise the possibility of building a fort or forts on its east end to control entrance to the St. Lawrence from the rivers bounding it. When he was back at Quebec, Father Le Jeune gathered material for an edifying story, – the story of the fearlessness of Bourdon and his companion: how, when they were about to leave the Rivière des Prairies, they shamed a Huron, fearful of the Iroquois, into making the trip to Trois Rivières with them, by calling him a scaredy cat.³⁰

Two months later, Bourdon was better able to understand the frightened Huron's mind. Montmagny and he were at Trois Rivières when the Hurons arrived from Ontario to do their annual trade. The Hurons brought word that the woods were infested with Iroquois. And their word was true. When some of them set out to go home, they were back again in no time. They could not get into Lake Saint Peter because of the number of Iroquois. And the Iroquois were skimming across the lake daring the French or the Hurons to come out. The settlement was in a state of siege. The Governor got word to Quebec. When a bark and six shallops came sailing up from Quebec, the Iroquois thought it more prudent to retire.³¹ But, from that day forward, the Iroquois

²⁵ JRT, 28, p. 206.

²⁶ H. HARRISSE, *Notes pour servir à l'Histoire, à la Bibliographie et à la Cartographie de la Nouvelle-France et des Pays Adjacents*, 1545-1700, Paris, 1872, p. 191, No. 190.

²⁷ The object of the *Relations* was to elicit sympathy and draw pious people to becoming benefactors of the missions (L. Pouliot, *Etude sur les Relations des Jésuites de la Nouvelle-France, 1632-1672*, Montreal, 1940, p. 7).

²⁸ JRT, 11, p. 28.

²⁹ It is reproduced in JRT, 11, opposite p. 66.

³⁰ JRT, 12, p. 176.

³¹ JRT, 12, pp. 194-212.

were a constant menace.

In the following years, Bourdon was city engineer, town planner, land surveyor and works department, all rolled into one. With the arrival of the Hospital Nuns and the Ursulines (in 1639), Bourdon's vision of a city grew. He had streets and roads on paper; he was dreaming of a New Rouen astride the River St. Charles. These dreams were disturbed by the Iroquois. Year by year, the Iroquois blockade of the seaway to the west was becoming more and more effective. In 1641, they had bargaining power, and they knew it. They sent delegates who suggested a conference. The conference was held in mid-stream in Lake St. Peter. All day long, Montmagny, the representative of His Majesty Louis XIII, bargained with Iroquois chiefs, watched by several hundred Iroquois warriors, who lined the shores of the Lake, like frogs on the edge of a pond. Montmagny promised everything asked of him except arms. The Iroquois broke off negotiations and openly declared war.³² Terror seized New France.

Montmagny sent a report to Paris on the need for military aid. He suggested that the Old Country should send money to build forts and soldiers to man them. He sent Bourdon to Paris to make a map or maps illustrating the military situation. Father Le Jeune went with him, to plead, in high places, the need of military assistance for the success of the missions.

During his sojourn in France during the winter of 1641-1642, Bourdon may have drawn more than one map, but the only one that has come down to us which can be attributed to this time with certainty is his *Carte depuis Kebec jusques au Cap des Tourmentes*, which is signed and dated and preserved in the *Dépôt des Cartes de la Bibliothèque Nationale*.³³ This map would serve to illustrate the possibilities of expansion in the Quebec area. In view of his mission, Bourdon, at this time, must have made another map to illustrate the general situation. It is possible that his undated map entitled *Rivière St. Laurent depuis Montréal jusqu'à Tadoussac*,³⁴ was drawn in this winter of 1641-1642.

When Bourdon and Father Le Jeune arrived at Quebec, in 1642, they came with a promise of money and men to build and maintain forts. Father Vimont wrote, in the *Relation* for 1642, that it would have been impossible to foresee the joy felt by the French and the Indians at the news. The fear of the Iroquois had bred a spirit of depression. "But, as soon as news came that fortifications were to be built along the ways by which the Iroquois came, all fears were dispelled."³⁵

"His Majesty and his Eminence were sending out men to fortify the

³² JRT, 21, p. 60.

³³ Harrisse, p. 191, No. 190.

³⁴ Harrisse, p. 192, No. 191. This map measures about 27½ by 19½ inches.

³⁵ JRT, 22, p. 34.

country.”³⁶ Before these men had arrived, Bourdon set the carpenters at Quebec to work pre-fabricating parts of the living quarters to be erected at a Fort to be built at the mouth of the Richelieu River. While this work was in progress, news reached Quebec that Saint Isaac Jogues and Saint René Goupil had been captured by the Iroquois. So, as soon as the new men had arrived from France, Montmagny and Bourdon set off for the Richelieu with about one hundred men, of whom some were recent arrivals, some old-timers, and about thirty-five soldiers. The work of building Fort Richelieu was rushed. It was ready for occupation before the river was frozen that winter.³⁷

In the Spring of the year 1643, armed Christian Indians were sent from Sillery to the new Fort Richelieu to strengthen the garrison. This was a temporary measure, – until the ships from France should arrive with more soldiers and men and money. How badly needed were men and money to build more forts, and soldiers to garrison the forts, soon became apparent. Fort Richelieu did not stop the flow of Iroquois to the St. Lawrence. The Iroquois left the River Richelieu a mile or so before coming to the fort, and portaged their way to the St. Lawrence.

Just when the need of more assistance was most evident, a special messenger from Miscou, N.B. brought dire word. Louis XIII was dead, and Richelieu was dead, and the ships would be late, and there would be no soldiers, no arms, no money. When the ships did come, they brought little, and, that winter, provisions ran low in Quebec.

In the Spring of 1644, the Iroquois were on the St. Lawrence earlier than usual. The very first canoes which left Quebec for Montreal (and points further west) were attacked. Father Bressani was among those captured. The Indians at Sillery were terrified, and took to flight. The Hospital Nuns were moved from Sillery to Quebec. At trading time, only twenty or thirty canoes of Indians came from the west, instead of the three or four hundred of previous years.³⁸ When the ships arrived in August, they brought soldiers, sent by the Queen-Regent. Montmagny assigned them to convoying the canoes to Ontario, with instructions to convoy them back the following year.

At Quebec, there was discontent among the colonists. They had reason to be dissatisfied. Their basic trouble, in their war with the Iroquois, was lack of man-power. Their lack of man-power was due to a breach of contract on the part of the Company of New France. Accordingly, in the Fall of 1644,

³⁶ JRT, 22, p. 247.

³⁷ JRT, 24, p. 196. In the minds of Montmagny, Bourdon and the people of Quebec, this was but the first fort in a series to be built: “On allait dresser des fortifications sur les avenues des Iroquois” (Father Vimont, in the *Relation* for 1642, JRT, 22, p. 34).

³⁸ JRT, 25, p. 108.

Repentigny and Jean Paul Godefroy went to France deputed to plead the cause of the colonists. They were back in August 1645 with *a fait accompli*. Before the people of Quebec knew about it, there had been printed and published in Paris the articles of agreement between the Company of New France and the Deputies of the colonists, agreed to and confirmed by the King.³⁹ According to the agreement, a Company of Colonists was to be formed, which, in return for the monopoly in trade, was to undertake, amongst other obligations, to pay the Governor, and to appoint, and pay other officials. With the Company of Colonists, party politics came to Quebec. Bourdon showed up as the trusted Civil Servant independent of parties and trusted by all.

One of the first moves of the Company of Colonists was to save money on soldiers. The garrison at Fort Richelieu was reduced to a skeleton crew of eight or ten soldiers. Its commandant returned to France. The commandant at Trois Rivières resigned immediately. Pending a new appointment by the new Council, Montmagny named Bourdon commandant *pro-tem* at Trois Rivières. The permanent appointment went to Poterie, Repentigny's brother-in-law.

Bourdon's balanced attitude, in the midst of petty politics, won for him the regard of the Jesuits.⁴⁰ On New Year's day, 1646, the Superior presented to him, as a token of esteem, an instrument which Father Jérôme Lallemand described as "a telescope mounted with a compass."⁴¹ It may have been a theodolite; if it was, it was one of the earliest theodolites with telescope.⁴²

In 1645, Montmagny made overtures for peace to the Iroquois. There followed many pow wows. Finally, early in 1646, an embassy of Mohawks came to announce that the Iroquois tribes had agreed to peace. Montmagny and his Council decided that two Frenchmen should go to the Mohawk country bearing gifts. The Jesuits nominated Saint Isaac Jogues, and Montmagny asked Bourdon to go. He wanted Bourdon to take a compass and quadrant with him, and to be ready to sketch a map of the Richelieu River

³⁹ *Articles accordez entre les Directeurs et Associez en la Companie de la Nouvelle France et les Deputez des habitans dudit pays: Agreez et confirmez par le Roy* (Paris, 1645).

⁴⁰ The founders of the Company of Colonists were not particularly favorably disposed towards the Jesuits. Repentigny had endeavoured to have inserted in the agreement drawn up in Paris, a clause to the effect that the Recollects should be in charge of the parishes in the colony, and the Jesuits in charge of the Indians missions only.

⁴¹ *Une lunette de galilée ou it y avait une boussole* (JRT, 28, p. 142).

⁴² Martin Waldseemüller (1470-1512) used a theodolite with plain sights; Hans Lippershey, a telescope in 1608; J. B. Morin (1583-1656) replaced plain sights by a telescope for measuring arcs in 1634. But theodolites were not sold on the open market or commonly used by surveyors until the time of Edward Troughton (1753-1835).

when he returned. All admired Saint Isaac for his courage in returning to the country of his captors. Bourdon was not less ignorant of how treacherous the Iroquois could be, and Father Jérôme Lallemant praised him to the people of France for his courage and zeal, in undertaking the hard and dangerous journey for the common good, leaving – as Saint Isaac did not – a loving wife and children.⁴³

Bourdon, Saint Isaac, four Mohawks and two Algonquins paddled up the Richelieu River to Lake Champlain and into Lake George. They made a long portage to the Hudson River, which they descended to Albany. Three weeks after leaving Trois Rivières, they were with the Mohawks at Ossernenon, where they were feted and gazed upon and exchanged presents. They were back in Trois Rivières, safe and sound, forty-four days after they had left it. Saint Isaac reported: “We made a fairly exact map of the country through which we passed.”⁴⁴ Bourdon said: “The good Father was indefatigable.”⁴⁵

In the Spring of 1647, Algonquins brought the news that the Iroquois were on the war path again. Bourdon was sent, in a bark with thirty men, to dismantle the Fort at the Richelieu River, before it should fall into the hands of the Iroquois. It had been left unoccupied during the winter. Bourdon found that its timber structures had already been burned by the Iroquois, but the cannon were intact. He spiked them, and brought them back to Quebec.⁴⁶ But, before returning to Quebec, he went to Montreal, with his men, where he spent a few weeks. At the year’s end, Louis d’Ailleboust, Commandant at Montreal, was praised for having, that year, so ably fortified his island.⁴⁷

During Bourdon's absence from Quebec, colonists brought to the Governor complaints about the Company. They asked if they might elect a *Procureur Syndic*. Montmagny replied that that was a matter for the General Assembly.⁴⁸ Three weeks later, a General Assembly voted to have a Syndic, and elected Bourdon to the position.⁴⁹ He was commissioned to ask the Governor to take upon himself the care of all the affairs of the colonists, and to suspend the directors of the Company, pending a settlement. This Montmagny did, and he appointed Bourdon his general agent. In the Fall, a Royal Decree was received setting aside the Council of the Company and appointing a new Council of three.⁵⁰ Bourdon was confirmed in his position

⁴³ JRT, 29, p. 46.

⁴⁴ JRT, 28, p. 137.

⁴⁵ JRT, 31, p. 108.

⁴⁶ JRT, 31, p. 108.

⁴⁷ JRT, 30, p. 250.

⁴⁸ JRT, 30, p. 182.

⁴⁹ JRT, 30, p. 186.

⁵⁰ The Governor of New France, the Governor of Montreal and the Superior of the Jesuits at Quebec (cf. JRT, 30, p. 190).

as General Agent.⁵¹

One can understand why the Council turned to Bourdon at this time. The greatest outlay for a few years to come was going to be in buildings, and they did not want to see mismanagement, graft or nepotism. In June, there was laid the cornerstone of Fort Saint Louis, the granite pile which served as residence of the Governor and housed the governmental offices until 1834.⁵² In September, the first stone of the parish church was laid.⁵³

While Bourdon was procuring the welfare of the people of Quebec, seal hunting, which proved such a financial boon, was started. It was not started by him, but he perceived its possibilities, and favored its development. In 1648, there were 'taken' at Isle Rouge, near Tadoussac, forty-two seals, which yielded six barrels of oil (to say nothing of fur coats).⁵⁴ The following year, Bourdon made a successful tour of inspection, as far as Gaspé.⁵⁵ In 1650, the Parisian Directors of the Company of New France intimated that they took a dim view of the developments in the Tadoussac region, and felt that the colonists of Quebec were exercising rights over and beyond the concessions made to them in 1645. The resourceful Godefroy proposed the formation of a new company, the Company of Tadoussac, which, for a consideration, might obtain from the Company of New France the needed rights. Godefroy was commissioned to negotiate with the Messieurs of the Company in Paris, and Bourdon was asked to go with him to France.

Bourdon's visit to France in 1650 was the second of four journeys which he made to France. For each of the other three, we have maps made by him. It is unlikely that he spent the winter of 1650-1651 twirling his thumbs in Paris. He probably made a map, and it was most probably a map of the Richelieu River and the Iroquois country which he had visited with Saint Isaac Jogues in 1646.⁵⁶ Saint Isaac tells us that on their journey they made a map. This 'map' would have been nothing else but Bourdon's field notes. Bourdon must have, sometime, made a finished map of the Richelieu River, for, in 1665, Sorel, Chambly and Salières had all been briefed, in France, on how they were to build a chain of forts along the Richelieu River, – with which they were unacquainted. There must have been a map of the Richelieu

⁵¹ JRT, 30, p. 203.

⁵² JRT, 30, p. 178

⁵³ JRT, 30, p. 194.

⁵⁴ JRT, 32, p. 92.

⁵⁵ JRT, 34, pp. 56, 58.

⁵⁶ It is just possible that during the winter of 1650-1651, Bourdon made his map inscribed: *Rivière St. Laurent depuis Montreal jusqu'à Tadoussac*, which is undated. But this map is more likely to have been made in the winter of 1641-1642, and is usually catalogued as "probably 1641" (Harrisse, p. 192, No. 191).

River available in Paris. Only Bourdon could have made it. It is probable that he made it in the winter of 1650-1651.

One outcome of the negotiations about Tadoussac was that Bourdon was appointed *Procureur Fiscal* of the Company of New France, with a special mandate to watch the financial connections between this Company and the new Company of Tadoussac. Bourdon's first step was to acquire a new ship, the *St. Jean*, for the Tadoussac trade. Bourdon returned to Quebec on it. For a few years, it was on the trans-Atlantic run; later, it was reserved for the Quebec to Tadoussac and Gulf of St. Lawrence runs. It was often spoken of as the *petit St. Jean*, and sometimes as "Bourdon's Ship."⁵⁷

Bourdon's appointment as *Procureur Fiscal*, made when he was in France, dates from about the same time as the appointment of Jean de Lauzon as Governor of New France. Lauzon was an influential director of the Company of New France since its inception in 1627. His interest in the new Company of Tadoussac was deep. Bourdon's appointment was made with his agreement, if not at his suggestion. Indeed, one wonders if it was not under Lauzon's patronage that Bourdon came to Quebec in 1634. When Lauzon's son, Jean, visited New France in 1644-1645, he stayed with the Bourdons, and accepted the office of godfather to Bourdon's youngest daughter, Anne, born in 1645.⁵⁸ When Anne was ten years of age, Jean Lauzon Junior was Seneschal of New France, and as a birthday present, he deeded to Anne a fief from the Lauzon seignory. When, in 1652 Bourdon's eldest daughter, Geneviève, took the veil, at the Ursuline Convent, Lauzon, the Governor, was present at the ceremony.⁵⁹ Two years later, Bourdon's wife died. After a year of being a widower, he married again. His wedding, in 1655, was in the private chapel of the Governor's residence, in Fort St. Louis. The witnesses who signed the registration of the marriage were the Governor, and his son Charny, who, the following year became acting Governor.⁶⁰

⁵⁷ *St. Jean* (JRT, 36, p. 128); *le petit St. Jean* (JRT, 36, p. 138); *la barque du Monsieur Bourdon* (JRT, 44, p. 188).

⁵⁸ Gosselin, p. 179.

⁵⁹ JRT, 37, p. 118. Geneviève Bourdon was the first Canadian Ursuline. Her youngest sister, Anne, was the second. Both have had their biographies written in the annals of the Ursulines of Quebec (*Les Ursulines de Québec*, 4 vols., Quebec, 1863: "La Mère Geneviève Bourdon de St. Joseph," vol. 1, p. 277; "La Mère Anne de Ste. Agnes," vol. 1, pp. 277-280). Bourdon's two other daughters, Marie and Marguerite, became Hospital Nuns. They were counted by the Ursulines among their distinguished alumnae, and were noticed, with laudation, in *Les Ursulines de Québec*, vol. 1, pp. 113-114.

⁶⁰ Bourdon's second wife was the well-to-do widow, Madame de Monceaux. She had come to Quebec to engage in works of charity and mercy. She did not fail in her purpose. It was a work of charity and mercy to marry Bourdon, a widower with six children.

In the Spring of 1657, when Charny was still acting Governor, Bourdon was commissioned to attempt to find a sea route to Hudson Bay and establish trade with the Esquimaux or Indians there. The idea of going round to Hudson Bay by way of the coast of Labrador was possibly Charny's. It was on May the second, 1657, that Bourdon weighed anchor at Quebec for his voyage to the North.⁶¹ On the eleventh of August he was back at Quebec. For the edification of the general public, Bourdon's expedition was reported in the *Relation* for 1657-1658, as follows: "On the 11th (of August), Monsieur Bourdon's bark appeared. It has followed the northern shore of the great river (St. Lawrence) and gone to the 55th degree, where it encountered a great field of ice, which made it turn back, after having lost two Hurons, who had been taken along as guides. Eskimaux, the natives of the North, had slain them, and injured a Frenchman with three arrow shots and a knife wound."⁶²

According to the wounded Frenchman, Laurent Dubocq, it was not so much the ice as the loss of his guides that made Bourdon turn back. Dubocq had gone on the expedition to act as interpreter. He was twentytwo years of age at the time. Thirty-one years later, he made a sworn statement in which he stated that Bourdon set out for the *Baye du Nord* on a bark called the *Petit Saint-Jean*, with sixteen Frenchmen and two Hurons. On the way they landed on the Labrador Coast to see if they could trade with the natives there. They stayed the night, and the following day, an unprovoked attack by the Esquimaux resulted in the killing of one of the Hurons and the wounding of the other and of Dubocq himself. The wounded were rescued by their comrades, and the voyage continued. The second Huron died five days later, "so that," says Dubocq, "Sieur Bourdon seeing the two Indians dead and him, the witness (Dubocq), incapable of serving, decided to return."⁶³ Since Bourdon went to latitude fifty-five degrees north, he must have just passed Cape Harrison when he turned back. The place where he landed, five days before, would therefore be in the neighborhood of Cartwright.

On October 18, 1660, Bourdon sailed for France.⁶⁴ We have no documentary evidence of the purpose of his mission. But from contemporary and subsequent events we can surmise. He left for France on one of the fleet of ships which carried Argenson's letter of resignation as Governor, and the manuscript of the *Relation* for 1660, which ended with a statement of the growing danger from the Iroquois and a fervent appeal for aid from France. One of Argenson's complaints was the inadequacy of military support from the Old Country. Bourdon's mission was probably to implement the plea for

⁶¹ JRT, 43. P. 34.

⁶² JRT, 44, p. 188.

⁶³ JRT, 45, p. 162.

⁶⁴ JRT, 46, p. 150.

military aid. That the plea for aid was not altogether vain is evidenced by the fact that the new Governor was allotted one hundred soldiers, and secondly, that he was promised more.⁶⁵ While in Paris, Bourdon drew his plan of Quebec entitled *Vray plan du haut et bas de Québec come it est en l'an 1660*.⁶⁶

The new Governor, Avaugour, arrived on the last day of August 1661. On his arrival, Avaugour did not take up his residence at Fort Louis. He stayed with Bourdon. He then made a quick tour of the colony, up to Montreal and back. On his return, he again took up residence at Bourdon's, and did not move into the Governor's residence until October.⁶⁷

The military aid which Avaugour had been promised was slow in arriving. Like his predecessors, he became dissatisfied. Avaugour's complaints did not fall on deaf ears. Mazarin was dead.⁶⁸ Louis XIV was ruling in person. The king found his style cramped by the Company of New France, so he abolished it, and took its rights unto himself, or to the State, – which was himself.

A royal decree of February 1663 set up, for Quebec, a King's Council, composed of the Governor and the Bishop, a *Procureur*, a secretary and five Councillors, – all to be nominated by the Governor, conjointly and in agreement with the Bishop. As Governor, to institute the new order of government in Canada, the king appointed Augustin de Saffray, Chevalier de Mézy.

Mézy landed at Quebec on the 15th of September, 1663, and three days later he announced the names of the new Councillors, and that Bourdon was to be *Procureur*. It was not long before the Governor and the Bishop were at loggerheads, and it was difficult to get unanimity in the Council Chamber. Some Councillors consistently sided with the Governor, others with the Bishop. Mézy decided that he must have a Council more amenable to his opinions. He declared Villeray and Auteuil to be no longer Councillors, and Bourdon to be deprived of his office. He wrote to Laval asking him to concur with his decree, and to join with him in calling an assembly of the people to elect successors. Laval declined. A month later, Mézy issued a declaration in which he stated that, having consulted the people, he had appointed Chartier to Bourdon's post. At this juncture, Bourdon took his pen in hand. He addressed a letter to the Council, in which he pointed out that the Governor could not appoint a *procureur* to the Council, except conjointly and in agreement with the Bishop. Mézy took upon himself to answer the letter. He informed Bourdon that he was to consider himself excluded from holding

⁶⁵ JRT, 46, p. 150.

⁶⁶ HARRISSE, p. 192, No. 192.

⁶⁷ JRT, 46, p. 184.

⁶⁸ Mazarin died in March 1661, when Bourdon was in France

all public offices until the King's pleasure should be known. On the last day of August 1664, Villeray sailed for France, with a view to finding out the King's pleasure. Eighteen days later, on the first anniversary of the nomination of the Councillors, Mézy declared the Council dissolved.⁶⁹ Bourdon, as a private citizen and a man of experience, went to see Mézy, to advise him to go slowly, and not, on any account, to appoint a new Council without the approval of the Bishop. Mézy was furious. He told Bourdon to get out of the room, to get out of the country; there was a ship riding at anchor, let him take it to France. Bourdon boarded the vessel. Five days later, he was on his way to France.⁷⁰

In Paris, the King concurred, wholeheartedly, with the opinion of Villeray and Bourdon that Mézy had overstepped his power. An order recalling Mézy was made out. Courcelles was asked to be ready to replace him, and Talon was appointed Intendant. Courcelles was instructed that, on reaching Quebec, he was to re-instate the original Council and officers of the Crown, and, a year later to submit their, or other, names to the King for further approval.

It would seem that Bourdon, during his stay in Paris, was employed by Colbert. His map entitled *Carte du plan et environs de Québec, 1664* was preserved by the Ministry of Marine, the department to which Colbert was charging the cost of sending and maintaining soldiers in Canada.⁷¹ Colbert, in March 1665, while Bourdon was in France, gave detailed instructions to Talon, on how a chain of forts was to be built along the Richelieu River to the very boundary of the Iroquois country. The instructions were passed on to Salières, and down to Sorel and Chambly, – all of whom were in France. The instructions which these men received supposed a knowledge of the river Richelieu, which could be had in Paris, only from Bourdon or from a map. The only person in the world competent to draw the map was Bourdon. As said already it was probably in the year 1650 that he made a map of the River Richelieu, and of the country south of it to Albany. Whenever this map was made, it must have been much used and copied. Tracy, Sorel, Chambly, Salières and Courcelles must have seen it, or copies of it, before they ever saw the Richelieu.

It was in June 1665, that the first four companies of the Carignan Regiment arrived at Quebec from France.⁷² On June 30, Tracy arrived, from the West Indies, with four companies of soldiers.⁷³ These were the same four

⁶⁹ JRT, 48, p. 238.

⁷⁰ JRT, 48, p. 238.

⁷¹ HARRISSE, p. 192, No. 193; G. F. F. STANLEY, *Canada's Soldiers, 1604-1954*, Toronto, 1954, p. 25.

⁷² JRT, 49, p. 160.

⁷³ JRT, 49, p. 160.

companies which had been with him since he left France in 1664.⁷⁴ They were companies of the Allier, Chambelle, Poitou and Orléans Regiment.⁷⁵ The next ship to arrive at Quebec arrived on July 16th “with Monsieur Bourdon, 12 horses, 8 girls and others.”⁷⁶ The horses belonged to the Carignan Regiment. Bourdon must have come with some commission, or, at least, with instructions to Mézy to admit him into the country, – for he was not to be reinstated as *Procureur* until Courcelles arrived. But Mézy was dead. He had died on May 5th. News of his death did not reach France until after Bourdon had sailed. Bourdon found Poterie acting Governor.

Seven days after Bourdon arrived in Quebec, Sorel left, with his four companies of the Carignan Regiment to build a new fort at the mouth of the Richelieu.⁷⁷ Before any more ships arrived, Chambly, on August 10th, “left Trois Rivières with his troops for the Richelieu Rapids.”⁷⁸ It is unlikely that Chambly went off blandly to build a fort at “the Richelieu Rapids,” without having been briefed by map. It was August 19th before Salières arrived in Quebec.⁷⁹ Courcelles and Talon did not arrive until September 12th. On September 23rd, Courcelles announced the re-establishment of the Sovereign Council, with Bourdon as Procureur.

On November 4th, the last ship of the season left Quebec for France.⁸⁰ It carried the manuscript of the *Relation* for 1664-1665, with an introductory letter by Father François Le Mercier, dated at Quebec November 3, 1665.⁸¹ The fourth chapter of this Relation is entitled: “About the First Forts Constructed on the River of the Iroquois.”⁸² It tells of Sorel, Chambly and Salières going to the Richelieu River and building three forts, at the mouth of the river, at the foot of the rapids, and about the rapids, respectively. It concludes with the promise: “We shall give at the end of the next chapter, the plan of these three forts, with the map of the country of the Iroquois, – a map not yet seen.”⁸³ Why was the map promised at the end of the following chapter, instead of being inserted in the chapter, or at the end of the chapter, which it was to illustrate? And who had not yet seen it? A satisfactory explanation is to be found in the supposition that this promise was written

⁷⁴ JRT, 49, p. 216.

⁷⁵ G. F. F. Stanley, *Canada's Soldiers, 1604-1954*, Toronto, 1954, p. 13.

⁷⁶ JRT, 49, p. 160

⁷⁷ JRT, 49, p. 160.

⁷⁸ JRT, 49, p. 162.

⁷⁹ JRT, 49, p. 164.

⁸⁰ JRT, 49, p. 172.

⁸¹ JRT, 49, p. 190.

⁸² JRT, 49, p. 252.

⁸³ “Nous donnerons à la fin du chapitre suivant, le Plan de ces trois forts, avec la Carte du pays des Iroquois, que l'on n'a point encore vue.” (JRT, 49, p. 254).

by the Paris editor to the printer, and became incorporated in the text. The “plan with map” was not given at the end of the next chapter, as promised. In some copies of the *Relation* it is lacking. In one copy it is found at the end of the volume.⁸⁴ In all other copies it is bound in between the table of contents and the beginning of the text.⁸⁵ The map shows the Richelieu River, Lake Champlain, Lake George, the Iroquois country and the Hudson River. Superimposed on the map, to one side, are shown, in outline, the ground plans of the three forts. It looks as though these small outlines had been sent with the manuscript of the *Relation*, and that they were superimposed on the map by some *enlumineur*, or commercial artist, in Paris, who had not finished the job in time for the illustration to be inserted in its promised place. That the map was founded on a map done by Bourdon (probably in 1650) is most likely.⁸⁶

If Bourdon accompanied Sorel and Chambly to the locations where they were to build, he certainly had no part in the building of the forts, nor would he expect to have. As early as 1650, when he was in Paris, he could detect a leaning towards the old belief that the building of fortifications was a work for soldiers, and not for civilians. This reversal in thought was due to the *Traité des fortifications* published in 1645 by Blaise Pagan, comte de Merveille. Pagan retired from the army with the rank of *mareschal de champ*, and during his retirement wrote this book. He boasted that it was founded on experience, experience in twenty-one sieges, and not on any theoretical considerations. His book had a tremendous and lasting influence. As late as the year 1879, a Colonel “Blimp,” Colonel Sir Charles Nugent, R.E., wrote: “It was the Comte de Pagan who first disengaged the science of Fortification from a number of suppositions which custom had consecrated, and which, resting more on abstract mathematical reasoning than on practical experience had hitherto retarded the progress of the art.”⁸⁷ In the twentieth century, it was the spirit of Pagan, preferring obsolete experience to intelligent foresight, that was responsible for the excess of faith in the Maginot line.

When Bourdon was in France in 1660, he found that an ardent young student of Pagan’s, Sebastien Vauban, was, at the age of twentyseven, up and

⁸⁴ “Bibliographical Data,” JRT, 49, p. 270.

⁸⁵ J. C. McCoy, *Jesuit Relations of Canada, 1632-1672*, Paris, 1937, p. 266.

⁸⁶ The “plan with map” in the *Relation* for 1664-1665, published in Paris in 1665, measures 57 by 35 cm. It is reproduced in JRT, 49, facing p. 266, reduced to about half-size (23 by 17 1/4 cm.). The space given to the outline of Fort Richelieu (built by Sorel) on the “map with plan” of 1665, measures about 7 1/2 by 7 1/2 cms. With his dispatch of 2nd November 1665, Talon sent a plan of Fort Richelieu measuring 31 by 20 cms. This was never published (Harrisse, p. 192, No. 196).

⁸⁷ *The Encyclopaedia Britannica*, 9th edit., vol. LX (1879), p. 441.

coming as *ingénieur du roi*. Then, in Paris, in 1665, he was all but present at the birth of the first of all standing armies. The Carignan Regiment, one of the last regiments owned by its colonel, was being sent to Canada, while, at the Ministry of War, Le Tellier and his son Louvesc were planning, for France, a standing army.⁸⁸ The French standing army came into existence the following year, with Jean Martinet, Lieutenant-colonel of the King's Regiment of Foot, whipping into shape the model infantry of a model army.

In Quebec, on December 6, 1666, Courcelles announced that His Majesty Louis XIV had approved the permanent appointment of Bourdon as *Procureur du Roi au Conseil*.⁸⁹ He filled this office with honor and distinction. He died piously on January 12, 1668, content to sing his *nunc dimittis*.⁹⁰

In the Fall following his death, his widow and his eldest son went to France. They carried with them a letter from Marie de l'Incarnation to her son, commending them to him. She wrote, in part:

I pray you to receive them with signs of friendship, because I love and cherish their family more than any other in this country ... Monsieur Bourdon was *Procureur du Roi*, an office given to him because of his probity and merit ... Clothed though he was as a secular, he led the life of the most regular of regulars. He walked continually in the presence of God and in union with His Divine Majesty.⁹¹

Against the background of this high praise, let us consider the belittling of Bourdon done by Dumesnil, Parkman and Costain.

Peronne Dumesnil was sent to Quebec by the Company of New France, at the eleventh hour of its life, to try to save it. Not only did he fail, but when the Sovereign Council was set up in 1663, he was not named to it. To say that he became embittered is an understatement. He seems to have become deranged in mind. He set about accusing the members of the Council, and the saintly Bourdon, with embezzlement. When he became a menace to constituted authority, he was arrested and held until there were ships leaving

⁸⁸ The Carignan Regiment, raised, in 1644 by Carignan, was owned, in 1665, by Colonel Salières.

⁸⁹ JRT, 50, p. 206.

⁹⁰ JRT, 51, p. 144.

⁹¹ *Lettres de Marie de l'Incarnation*, 2 vols., Tournai, 1876, vol. 2, p. 403. Bourdon's eldest son, Jean-François, settled and married in France, where he died at the age of 43. His only other surviving son, Jacques, went with La Salle, under the name of Sieur d'Autray, to the Gulf of Mexico. Then, as a lieutenant, lived in Illinois. In 1687, he came to Quebec for a family reunion with his step-mother, his sisters, the nuns, and his brother, on a visit from France. On the return journey to Illinois, in the following Spring, he was killed by an Iroquois, aged 35 and unmarried.

for France. In the Fall of 1663, he was let go to France to plead his cause there. He wrote a thirty-eight page memorial for Colbert.⁹² He wrote a second and a third. He kept up writing complaints for, at least, eight years. Meanwhile Bourdon had been to France, and been well received and even honored. Three years after Bourdon's death, he rehearses again the iniquity of the Governor and Bishop, who named as *Procureur* "un nommé Jean Bourdon, boulanger et canonnier au fort."⁹³ Now, we know that Bourdon was not a baker and artillery man at the fort when, in 1663, he was named *Procureur au Conseil*. So this statement is false.

Parkman, instead of disregarding Dumesnil's writings, as the ravings of a maniac, and considering this statement as completely false, interpreted it as being false only as regards the time. So, when treating of Bourdon's early life, he says that although he was chiefly known as an engineer he had also been a baker and a painter.⁹⁴ Actually, there is no evidence that he was ever a baker, except Dumesnil's assertion that he was a baker in 1663, – which is contrary to fact. The only evidence that he was a painter is an entry in the *Journal des Jésuites* for the year 1646. The reference to Bourdon's painting should not be taken out of its context. The whole entry in the Journal reads as follows:

The Ursuline Mother of the Incarnation spent nearly all Lent painting two pieces of Architecture to be put beside the Tabernacle of the parish church; Monsieur Bourdon painted some steps.⁹⁵

The entry is one complete paragraph, separate and distinct from what precedes it and from what follows it. Before the word "Monsieur," there is a semi-colon. It, therefore, notes the good Lenten work done by the Venerable Marie de l'Incarnation and Bourdon. It makes Bourdon to be a painter, in the same sense that the good Ursuline was a painter.

Costain, in attempting to follow Parkman, says that Bourdon had risen from such posts as barber and painter.⁹⁶ As this is the only place in which he is made a barber, he was probably made a barber by the error of one of Costain's tired typists, who misread "baker" as "barber."

As an epilogue, let it be said that seven years after Bourdon's death, Louvenc, at Vauban's suggestion, established the *Corps des ingénieurs du Génie Militaire*. The ingenuity of the *Génie* led to the custom of calling upon

⁹² F. Parkman, *The Old Régime in Canada*, Boston, 1902, p. 202, note.

⁹³ "Memoire du Dumesnil concernant les affaires du Canada," dated 10 September, 1671, preserved in *Archives de la Marine*, as quoted by Parkman, p. 486.

⁹⁴ Parkman, p. 197.

⁹⁵ JRT, 28, p. 180.

⁹⁶ T. B. Costain, *The White and the Gold*, New York, 1954, p. 249.

this corps for the execution of public works not of a military nature. Consequently, the impression that engineering was a military art again became common. When, in 1703, Vauban was created a *Maréchal de France*, the impression hardened.

It took an English scientist, John Smeaton (1724-1792), a Fellow of the Royal Society, to teach the world that engineering was not a monopoly of the military. This he did both by word and example. He built bridges, canals, harbours and lighthouses, called himself a “Civil Engineer,” and founded (1771) the Society of Civil Engineers.⁹⁷ His example was followed in France, where *La Société des Ingénieurs Civils de France* was founded in 1848.⁹⁸ But sixty years before the formation of this Society in Paris, France had its *ingénieurs civils*, – but even that was already more than a hundred years after the death of Canada’s first engineer, Jean Bourdon.

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August 27, 1957.

⁹⁷ Smeaton was elected FRS in 1753, before he designed (1756) and constructed (1757-1759) the Eddystone lighthouse which established his name as an engineer.

⁹⁸ *Mémoires de la Société des Ingénieurs Civils de France*, Fascicule V (Octobre 1948), “Mémoires du Centenaire.”