

# The inventory of botanical curiosities in Pierre-François-Xavier de Charlevoix's *Nouvelle France* (1744)

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## Abstract

The article explores the botanical contributions of Pierre-François-Xavier de Charlevoix's book *Histoire et description générale de la Nouvelle France* vis-à-vis the contributions of previous researchers, his use of iconographic and discursive representations and its relevance to the project of French colonization. It investigates why he refused Linnaeus' taxonomic model and what he intended with his catalogue of botanical curiosities. The unfolding of his philosophical and religious trajectory allows to understand his stance regarding the classification of nature, the meanings of ethnological information, his forms of intellectual appropriation, and his use of discourse and botanical iconography as political and emotional propaganda to encourage colonial settlement.

Keywords: history of Canada; history and sensibilities; history and nature; Pierre-François-Xavier de Charlevoix (1682-1761); botany.

## Classifying or burying species?

When William Allen (1832, p.45) was studying the major figures in North American history, he recognized the importance of the works of the Jesuit Pierre-François-Xavier de Charlevoix (1682-1761): “His works were well received; but the history of New France, or Canada, is deemed peculiarly valuable, as he himself visited the country, which he described, and paid particular attention to the manners and customs of the Indians.”<sup>1</sup> However, Allen also offered overstated criticism of the cleric’s knowledge of botany, charging that his approach and style were flawed and imprecise. Allen’s critique would have made sense if the method of species classification adopted by Charlevoix had appeared in a book dated from the early nineteenth century, by which time the binary system devised by Linnaeus (1707-1778) had become the standard. This great advance in biology in the eighteenth century consisted of the binomial classification of plant and animal species by genus and their designation using Latin or Latinized terms (genus and species).

In the early eighteenth century, Linnaeus’ *Systema naturae* (1735) and *Fundamenta botanica* (1736) caused a major impact and stirred opposition. Take, for example, the weight of mechanistic philosophy, whose anti-religious, empiricist perspective allowed the natural sciences to flourish. However, Linnaeus’ model for classifying species was refuted not long after, as it did not afford a more coherent interpretation of nature, that is, of the relations between the forms and functions of living beings (Castañeda, 1995, p.35). Both the inflexibility of a taxonomic interpretation that saw nature in a fixed way and also the scientific, moral, and religious reactions to the study of plants based on sexuality bred opposition to this binary method. The earlier classification system, upon which Charlevoix based himself, valorized forms in nature. In this sense, it was surprising to change the natural order of things, especially when discussions pitted religion against science.

The binary classification system was widely used in the nineteenth century, although there still was no absolute consensus about it. Alphonse Karr felt that botany destroyed the poetry of the popular names of plants. In 1847, the writer stated in his “Soliloquy,” which is a chapter in *Les Fleurs Animées* (The Flowers Personified) that “the naturalist flattens and dries them. He then inters them in a sort of cemetery, called a herbarium, and underneath them writes pompous epitaphs in a barbarous language” (Karr, 1847, p.5).<sup>2</sup> This was a trenchant criticism, portraying this science as arrogant and as accomplishing nothing more than insulting plants in Latin and Greek, and it was not a lone voice in the desert. Georges-Louis Leclerc (1749, p.15), comte de Buffon (1707-1788), understood natural history to be a “prodigious [study] of quadrupeds, fish, insects, plants, and minerals that offer up a great spectacle to human curiosity and spirit”.<sup>3</sup> He also satirizes the method: “This pretense that botanists have of establishing perfect, methodical general systems is, accordingly, poorly grounded; their work can only lead to flawed methods that have been grounded on arbitrary principles” (p.18). Buffon believed that taxonomy could not precede empirical knowledge of nature; hence the need for thoroughgoing studies of the anatomy, life, behavior, and geographical distribution of species, allowing this type of study to take a fresh look at the concept of species.

Although there were countless debates over the different classification systems, Linnaeus’ gradually eclipsed the others. The nominalist tendency that Buffon complained about

reached Hispano-American botanists in the eighteenth century. In synthesis, Clément (1993) contends that the Linnæan system of plant names won the scientist a place in history and also represented a form of power. And while this method eventually became the sole one, the other models of classification used by Latin American naturalists were simply ignored. European naturalists disregarded other practices and designations of species and saw theirs prevail.

After this analysis, the question becomes what place Charlevoix occupied in the controversy over the classification of species. What are the reasons for a history grounded in rigorous method and an ongoing search for truth, alongside a flawed, inadequate natural history? What were his intentions when he released a catalogue of botanical curiosities for his readers? The document "Description des plantes principales de l'Amérique Septentrionale" (Description of the main plants of North America), is an integral part of the book *Histoire et description générale de la Nouvelle France* (History and general description of New France) (Charlevoix, 1744, t.III), and it offers some answers to these questions as it allows us to grasp some of Charlevoix's sensibilities towards nature in Canada. While the present study will be continued in another moment, my intention here is to ascertain the scope of Charlevoix's botanical contributions, examine his valorization of iconographic and discursive representations, and consider their relevance to France's colonization project in the eighteenth century.

### **The analogical model**

It would not be fully coherent to situate Charlevoix within the controversy over the classification of nature without understanding his works overall or his goals. The object of his attention was not botany per se but the relationship of the French with the milieu of nature. His choice to employ the traditional plant classification – that is, based on external characteristics – was rooted in his New World history project, his religious convictions, and his valorization of the colonial past. Hence it is appropriate to see how the traditional model for classifying nature influenced the Jesuit's work and how he appropriated this knowledge.

Charlevoix recognized the value of the contributions of Samuel Champlain (1567?-1635), of Brouage, and the Jesuits Nicolas Denys (1598-1688) and Jacques-Philippe (Jacobs or Iac) Cornuti (1606-1651) because he believed that they eternalized the history of New France while also comprehending the contextual reality of the American nature with which he had had contact. It should be noted that botany emerged alongside the art and cartography of North America in the sixteenth century. The references to trees and fruit that recall those of Spain in Diego Ribero's "Carta Universal" (Universal map) of 1529 and the cornfields represented on the 1556 map of Hochelaga by Giovanni Battista Ramusio are significant. However, these documents alone do not suffice in advancing this knowledge. The insertion of images of plants on maps, with different scales used – that is, one for plants and another for geographical space – was an effort to build an indispensable source of information about the New World (Kobelinski, 2008; Bann, 1994). Nevertheless, as we will see further on, Charlevoix employed the artistic representation of plants to demonstrate his knowledge to his readers, that is, to show it off to his public.

Beyond this figurative art, Jacques Cartier (sixteenth century) expanded knowledge of nature with his empirical-utilitarian descriptions of over 40 species of grasses, fruits,

herbs, bushes, and trees (cedars; pines; sassafras; walnuts; red currants; raspberries; corn; hemp; wheat; melon; cucumbers; etc.). Although this account was not illustrated, it laid the underpinnings for “Brief discours des choses remarquables que Samuel Champlain de Brouage a reconnues aux Indes Occidentales” (Brief discourse on the most remarkable things that Samuel Champlain, of Brouage, saw in the West Indies) (1599-1601). Champlain’s classification methods resembled that of André Césalpin (1519-1603) and Carolus Clusius (1526-1609), which explains his distinction between the character of trees and bushes and his interest in fruit and their shapes, colors, and pulp, along with their gustatory, medicinal, and cosmetic properties. These accounts and images of plants entailed two types of knowledge: that of observation and that of similarities with the sixteenth-century iconographic tradition (Doyon, 2008, p.12).

A book by the Jesuit Nicolas Denys – *Description géographique et historique des costes de l’Amérique septentrionale* (1672) (tr. *The description and natural history of the coasts of North America*, 1677) – is significant not only because it deals with the economic potential of American plants (which the author compares to those of France in terms of flavor, color, and pit) but also because it reinforces the notion that a plant’s physical shape bears a direct relation to its properties.

Prior to Denys’ work, a number of books explored the botany of Nouvelle France, including André Thévet’s *Les Singularitez de la France Antarctique* (1536) (tr. *The New Found Worlde, or Antartike*, 1568); Gabriel Sagard’s *Le grand voyage au pays des Hurons* (1632) (tr. *The Long Journey to the Country of the Huron*, 1930); and Cornuti’s *Canadensium plantarum, aliarúmque nondum editarum historia* (1635). It must be pointed out that the doctrine of signatures put forward by the Swiss physician, philosopher, and alchemist Paracelsus presupposed that there was a relation between the shapes, colors, and virtues of plants and the organs of the human body (Figure 1). In the Middle Ages, botany texts were accompanied by fanciful illustrations like that of the mandrake root, whose structure and properties were associated with the human body. Furthermore, properties were



Figure 1: Male mandrake (*Mandragora mas*) (Dioscorides, 1553, p.273)

correlated with therapeutic uses. It was said that these were the favorite drugs of witches, since they served as love potions and anesthetics (Collins, 2000, p.112) and that “heart-shaped leaves could cure cardiac problems, that the yellow sap of certain plants relieved jaundice, etc.” (Le Pan, 2007, p.15). In fact, if botanists placed priority on the study of the shapes found in nature and shunned the symbolism and “chemical virtues” of plants during the second half of the seventeenth century, Denys realized that these two perspectives could be combined. I do believe this was a notable tendency, as Charlevoix’s analyses absorbed these approaches in his work.

The practical uses of plants merit significant space: their medicinal applications, their possible uses in cooking, and innovations in the making of goods are part of a brand of knowledge that incorporated experience and observation. Yet scientific knowledge interpreted nature differently than did religion. Perhaps this was the greatest of Charlevoix’s dilemmas, because abandoning his religious precepts and knowledge based on analogy would not mesh with his scientific and personalist endeavor, which he wanted to advance at any price. Thus, “the most ancient texts still bear witness to an older modality of knowledge through

analogy” and “similarity between things,” whose results were palpable and thus justifiable in Charlevoix’s mind, unlike other procedures, which “were more concerned with exact measures and geometric configuration” (Gagnon, 1994, p.11). Without this knowledge, which was justified by observation, “it is useless to go no further than the skin or bark of plants if you wish to know their nature; you must go straight to their marks” (Foucault, 1990, p.43).<sup>4</sup>

The contribution of the Jesuit physician Cornuti – *Canadensium plantarum* (1635) – pleased Charlevoix for a number of reasons (Figure 2). In addition to appreciating the compilation itself, there is the fact that this author reconstructed, at a distance, a botanical history of transmigrated species that could be found in the main French gardens of the day. In these studies, description and artistic representation seem to move in one same direction – that is, they are characterized by observation and detailing. The priest Charles Plumier also appreciated the pioneering study that Cornuti conducted



Figure 2: Canadian plant (Cornuti, 1635, p.9)

“in the gardens of Vespesiano and Jean Robin,” so much so that he paid tribute to him in the botanical classification of a genus of plants (*Cornutia*) of the family of Verbenaceae (Dictionnaire des Sciences..., 1821, p.333).

Cornuti recognized the value of travel texts and commentaries produced from the tenth through the twelfth centuries, as well as the classic texts that marked botanical knowledge from Antiquity through the Renaissance. In fact, we find knowledge that was incorporated and expanded by a number of cultures, including the Greek, Roman, and Byzantine in all of the following: the empirical and philosophical studies of *Theophrastus (Tirtamas – 372-287 B.C.)*, disciple of Aristotle and author of *Historia plantarum* and *De causis plantaru*; the writings of Pedanius *Dioscorides (40-80 A.D.)*, the Greek physician and naturalist who founded pharmacology and who described over 600 plants and wrote about their therapeutic uses in his work *De materia medica (Codex Vindobonensis)*; and the work of Pliny (Gaius Plinius Secundus, 23-79 A.D.), who studied botany, mineralogy, zoology, agriculture, and pharmacology and wrote *Naturalis historia (77-79 A.D.)*. Addressing the origins of pharmacology in classic and medieval cultures, Martos (2008, p.76) underscores the influence of and additions to the works of Dioscorides:

Each culture added its discoveries, descriptions, and experiences, expanding the original treatise with other studies on different types of medicine, not only from plants but also animals. The work eventually reached the Middle Ages in the form of a manuscript of ancient medicine known as the *Codex Vindobonensis* (Martos, 2008, p.76).

Cornuti and Charlevoix complied with the demands both of the apostolate and of scientific observation. Derived from the classic period, their understanding of botany was that it entailed observation, description, collection, and comparison. Nevertheless, based on these reference texts, it was possible to verify the occurrence of species in climates different from those described and also to describe ones that had not been catalogued. The iconographic representations required a correspondence between the text per se and the nature it endeavored to detail. The emphasis was on leaves and roots: “Cornuti especially shows the plant system that encompasses the aboveground and underground parts of the plant... The reproductive system – to wit, the flowers – occupies a good space in the images, although the illustrator does not portray all their parts accurately” (Doyon, 1993, p.92).

The recognition of the field of botanical illustration coincided with scientific advances from the seventeenth to eighteenth centuries that enabled the field to be transformed into a tool of science. The valorization of the life sciences was accompanied by advances in observation (microscopy), in the rationality of the earth sciences, and in interest in the exoticism of plants and animals from all around the globe and, especially, “the ethical valorization of nature, together with the whole of that movement, ambiguous in its principle, by means of which... one ‘invested’... money and feeling into a land that earlier periods had for so long left fallow” (Foucault, 1990, p.140, emphasis in the original). It is in this context, according to Foucault, that games of reconstruction commenced, and if the contenders did not relinquish their own convictions, these conflicts would remain pressing. Among these clashes would be theology against science, where the battleground would be the imprisonment versus the liberation of nature, or the clash between those who defended the stasis of life (Joseph Pitton

de Tournefort, 1656-1708; Linnaeus) and those who were proponents of its dynamic nature (Charles Bonnet, 1720-1793; Benoît de Maillet, 1656-1738; and Denis Diderot, 1713-1784). However, as we take into account the bloody field of the 'battle-ideas' and the influence of classic authors on the works of Charlevoix, we will come to understand some of his perceptions of nature and his inner conflicts.

## Botanical rarities

We cannot understand Charlevoix if we study only "Description des plantes principales de l'Amérique Septentrionale." We should direct our attention to the entirety of his works, that is, to *Histoire et description générale de la Nouvelle France* (1744); *La vie de la mère Marie de l'Incarnation: institutrice & première supérieure des Ursulines de la Nouvelle-France* (The life of Mother Marie de l'Incarnation: teacher and first mother superior of the Ursulines in New France) (1735); *Histoire de l'isle Espagnole ou de S. Domingue* (History of the Island of Hispaniola, or of Santo Domingo) (1730); *Histoire du Christianisme au Japon* (History of Christianity in Japan) (1728); and *Histoire du Paraguay* (History of Paraguay) (1757). The topics of these books are varied and their ideas encompass a gamut of situations and contexts that are hard to capture. However, this analysis allows us to better understand Charlevoix's thinking and the way that his knowledge spread through scientific circles.

It took twenty years to produce Charlevoix's main work – *Histoire et description générale de la Nouvelle France* – a dense tome that complements the work of Champlain, Denys, and Cornuti, authors from whom he drew inspiration. In volume I, books I-XII, Charlevoix presents the letter he sent to the duke of Panthièvre, informs his readers about the content of the work, and offers his version of Canadian history (covering 1477-1690). The section that is of greatest interest to us is volume II, books XIII-XXII, where the author provides brief descriptions of 98 species of North American plants, accompanied by iconographic representations. He also mentions a history project for the New World and lists the main commemorative dates from 1248 to 1739. Further on, he devotes himself to Canadian history from 1690 to 1736.

What is particularly important is the roll of authors he consulted, which allows the reader to trace Charlevoix's reading itinerary. In volume III – whose title brings to mind the account of a journey that is to be revealed: "Journal Historique d'un Voyage" (Charlevoix, 1744) – Charlevoix presents the cartographic contributions of M. Bellin, a Navy engineer; a dissertation on the origin of the American peoples; and 36 letters dated from 1720 to 1723 and addressed to the duchess of Lesdiguières, Gabrielle-Victoire de Rochechouart Monmartre. This was a valuable narrative, as it afforded a means of disseminating information on an array of subjects, among them botany, but without the scientific and philosophical formalism found in the other books. Let us examine these spaces where Charlevoix established his ideas and curiosities.

The classification of nature found in "Description des plantes principales de l'Amérique Septentrionale" did not lack enunciative and classificatory formalities (Figure 3). As part of his *raison d'être*, Charlevoix opts for methodological continuity based on a series of classic authors like Pliny, Dioscorides, Matthiolo (1501-1577), F. Hernandez (1517-1578), Gaspard Bauhin (1560-1624), J. Parkinson (1567-1650), Kirker (1601-1680), Étienne-François Geoffroy

(1672-1731), Cornuti (1632-1731), J. Banister (1650-1692), Tournefort (1656-1708), Michel Sarrasin (1659-1735), Jartoux (1669-1746), Mark Catesby (1679-1749), François Lafitau (1681-1746), and J. Tennent (1725-1739). In this work we soon detect an absence of originality, in detriment of a narrative that revolves around French identity in the Americas. To some extent, this reliance on other authors implied the use of a methodology that some critics deemed outdated. The organization of the text can also be considered a response to the resistance to the French presence in America and to the criticisms that had opened up fissures in the majestic religious edifice of the Jesuit order. Charlevoix's work was also a way of reacting to the discrediting of the Society of Jesus and repeated attacks on it, "until it was suppressed by Pope Clement XIX, in 1773" (Kobelinski, 2012, p.58).

Charlevoix was not the only one to visit the French colony in North America, nor is there any lack of examples to be cited. Michel Sarrasin, royal physician and correspondent to the Royal Academy of Science, settled in Canada and wrote about 220 species of plants, which he sent to France. His unpublished work, with no illustrations, later reached the hands of Tournefort. Catherine Gertrude Jérémie also wrote about the medicinal properties of plants (1736 and 1740). The Jesuit Lafitau, who lived among the Iroquois, spared no effort in writing about ginseng, a plant that was found in New France and China. These

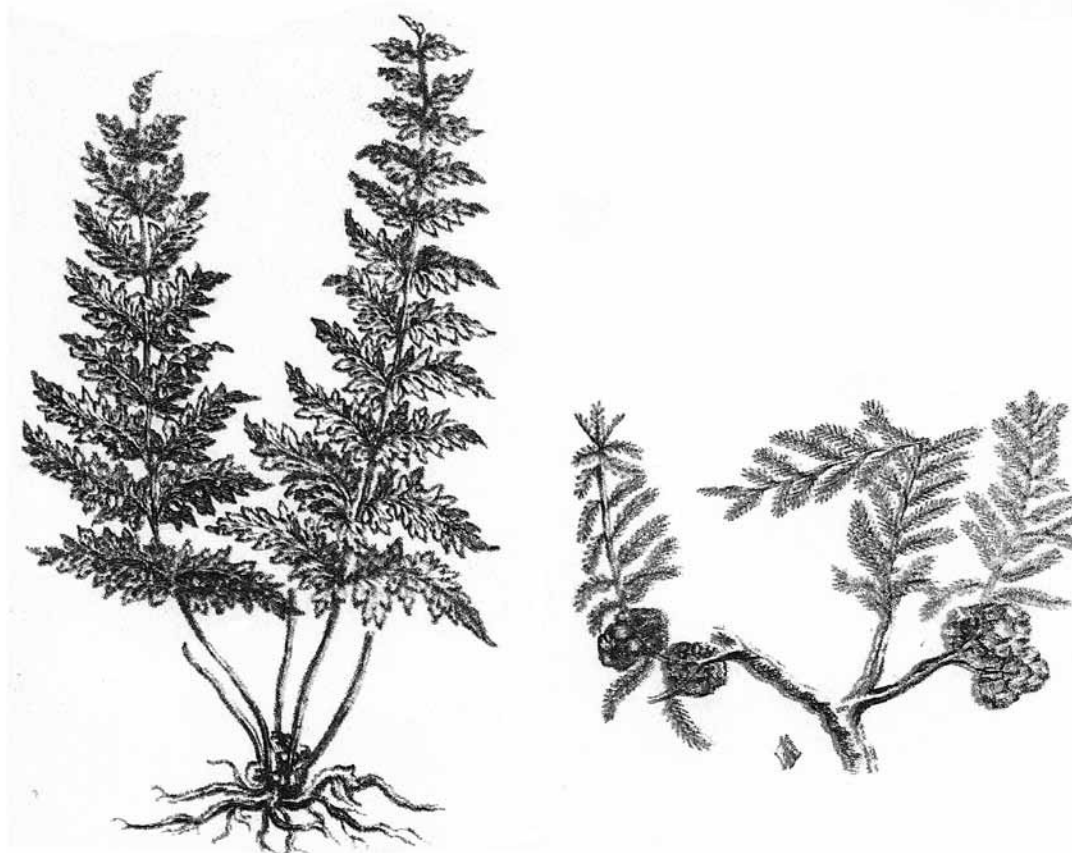


Figure 3: Louisiana cypress (Charlevoix, 1744, t.II, p.3)



textual and image references allowed Charlevoix to compose an invaluable living picture of the botanical curiosities of the New World, integrating it with his historical, missionary, and personal projects: "This is the third work that I present to the public. ... My intention is to report all that I can discover that is curious, useful, and interesting in each part of the New World" (Charlevoix, 1744, p.I). As Le Pan (2007, p.5) has argued, these studies afforded a better understanding of New World plants, expanded the king's medical arsenal, fostered patronage, fueled curiosity, and advanced botany. In practical terms, the knowledge revealed some of the Amerindian secrets about plant manipulation, for purposes of both treatment and food consumption. And this was pertinent to the very tenuous line between life and death in a country with a harsh climate.

His iconographic representation of plants and his descriptive texts reveal the molds of the classification system used by Charlevoix. In the opinion of Doyon (1993), his study concentrates on the aboveground and underground parts of the plants – of the 96 plant species listed, 96 were classified according to their leaves, 69 in terms of their fruit, 56 in terms of flowers, 52 in terms of roots, 15 in terms of the inside of the fruit, and 1 each in terms of the inside of the flower, the bush, and the tree. We can state that this iconography approaches microscopy in that it values details, while the personal correspondence pertains to recollections of the American forest landscape, as a product of the author's constructs and imagination.

In the late seventeenth century, Tournefort classified the visible structures of European and American plants according to the comparative principle found in his work *Éléments de botanique ou méthode pour connaître les plantes*, published in 1694. Hence the emphasis on plant shape, colors, and dimensions, a method that a number of authors adopted in their own work. While Charlevoix was interested in flowers, he did not detail them like Marcello Malpighi in *Anatome plantarum*, dated 1675. So there are differences in the plant classifications. While Linnaeus focused on the reproductive system, Tournefort separated botanical knowledge from medical. Charlevoix eschewed both, employing an old system in which the description was accompanied by the plant's therapeutic properties, which was an early seventeenth-century model. Notably, Linnaeus' binominal classification made it possible to rigorously order plants and animals, and to definitively add botany to the list of the sciences of nature. What we see here are fierce games of reconstructing and interpreting nature.

According to Doyon (1993), what stands out in Charlevoix's text (1744) is the narrative. Each one in fact has a different type of reader in mind. Poison ivy ("Herbe à la Puce") was highlighted in the first text because of its toxic characteristics but in the second for its properties as a dye. In the latter case, the Jesuit apparently did not verify these properties in the field. Charlevoix decided instead to translate and insert the Latin text by Cornuti (1635) in his own work a censurable action that breaches scientific principles, with Charlevoix casting aside his own observations for someone else's. Charlevoix's iconographic foundations do not stand up to verification. The similarities between "Description des plantes principales de l'Amérique Septentrionale" and the works of Cornuti are the product of compiling texts by that author (Figures 4 and 5). As if this were not enough, we find iconographic imitation as well (Table 1). As a result, 36 figures in "Description des plantes principales de l'Amérique Septentrionale" were drawn from *Canadensium plantarum*, one came from Lafitau, and 41

display similarities to those in Catesby's *Natural History*. We thus see that Charlevoix borrowed summaries and iconographic sources from Tournefort, Catesby, and others.

Cornuti's classification is significant, particularly when medical and botanical practices began to approach each other. In this regard, the search for plant properties and the characterization of the leaf shapes, roots, colors, and taste are vital to classification. Doyon asks why Charlevoix is missing from Linnaeus' *Auctores Botanici* (1759), in which he cites Cornuti, Catesby, Sebastian Vaillant (1669-1722), and Peter Kalm (1716-1779). The answer he gives helps us with the question posed at the beginning of this paper: "The countless editions of *Histoire [et description générale de la Nouvelle France]* leave no doubt about the excellent dissemination of Charlevoix's works. It is possible that his talents as a historian are thus better known than his talent as a botanist strongly inspired by Cornuti and Catesby" (1993, p.72). Despite this blemish on his image, Charlevoix advanced Cornuti's studies, since his eye was not focused solely on Parisian gardens. Perhaps he wanted the plants to become reference points in the memory, which would somehow bring to mind the landscapes traveled in the immense territory of the French colony in America.



Figure 4: *Edera Trifolia canadensis* (Charlevoix, 1744, p.31a)



Figure 5: *Edera Trifolia canadensis* (Cornuti, 1635, p.97)

**Table 1: Iconographic sources for Charlevoix's plants and texts**

Iconography of Charlevoix's plants	Figures for comparison	Literary sources for comparison
Fern with berries	Cornuti, p.4 Vaillant, S.	Cornuti, p.5
Bald cypress ( <i>Cupressus disticha</i> )	Catesby t.1, p.11	Catesby, t.1, p.11
Wild bergamot ( <i>Monarda fistulosa</i> )	Cornuti, p.14	Cornuti, p.13-15
May apple ( <i>Podophyllum peltatum</i> )	Catesby t.1, p.24	Catesby, t.1, p.24
Purple rocket [?] ( <i>Hesperis pinnatifida?</i> )	Cornuti, p.17	Cornuti, p.16-20
Tulip poplar [?]	Catesby t.1, p.48	Catesby, t.1, p.48
Bellwort ( <i>Uvularia perfoliata</i> )	Cornuti, p.39	Cornuti, p.36-40
Small species of bellwort	Cornuti, p.41 Barreliero, A.R.P.J.	Cornuti, p.36-40
Ginseng	Laftau, 1718	Laftau, 1718

Source: compilation by the author based on the sources indicated by Doyon (1993, n.p.)

Catesby's *Natural History* figures among major botanical works. The method used by this British naturalist resembles that of John Ray (1627-1705), which relies on the figure of the flowers, the number of petals, and the plant's form and structure. Although Catesby is not concerned with detailing all flower parts, his method served as the basis for Linnaeus' binary model. Likewise, Charlevoix applies the method of compilation and summary to 41 parts of Catesby's text. The work presents a broad scope of French and English literary and iconographic sources, with a notable merging of botanical knowledge and iconographic plant art. Some substantial mistakes notwithstanding, the scientist who presents botanical knowledge and the cleric are both evident in the text (Doyon, 1993, p.162).

The second part of Charlevoix's inventory of North American rarities encompasses correspondence sent to the duchess of Lesdiguières. These documents contain no iconographic sources. They reflect a form of personalism, complementary to the first volume of this work, while they are also an expression of Charlevoix's sensibilities towards the natural world. In these letters we find the names of over 30 of the 70 plants that appear in "Description des plantes principales de l'Amérique Septentrionale."

Charlevoix writes about the river network and the fish and birds of Canada along the St. Lawrence Seaway. The diversity of the forests dominates the narrative; he describes species of pine trees, cedars, oaks, and varieties of shrubs. There is also some room for olfactory insights, as when he compares the red and white cedar: "the red cedar is smaller and less hardy. The most notable difference one observes between one and the other is that the entire scent of the first lies in the leaves while the scent of the second is in the wood" (Charlevoix, 1744, p.161). In a piece of correspondence dated May 1721 (13<sup>th</sup> letter), his narration of a trip in the vicinity of the Onnontagués River reveals the author's surprise at the vines there, which interrupted the monotony of the Canadian forest. He goes so far as to compare them to those of Mexico: "the stems of these vines are hardy and thus many grapes hang there. But these grapes are no bigger than the thickness of a pea" (Charlevoix, 1744, p.205).

In another moment (17<sup>th</sup> letter, June 1721), in the vicinity of Lake Erie, these curiosities appear once again when he writes about red and white cedars and lemon trees. The latter

“have the same shape and color as those in Portugal, yet they are smaller and bland. ... The root of this tree is a lethal poison ... and even so a powerful antidote against snakebites. It must be crushed and applied immediately to the skin, as it is a fast, infallible remedy” (Charlevoix, 1744, p.264). In analyzing these texts, we note the Jesuit’s concern with the dynamics of nature: “I have observed that all of Canada produces a large amount of folk remedies [*simples*]. ... There is a kind of earth here, which along with the gentle climate and freedom... leads one to believe that the plants are stronger here than anywhere else.” But not all was an atmosphere of tranquility; people might find themselves in imminent danger. Poison ivy was one of these menaces; depending upon an individual’s sensitivity, the plant triggered “a violent fever that lasts more than fifteen days, accompanied by an extremely bothersome rash and great itching all over the body” (Charlevoix, 1744, p.263). It should be born in mind that the original French noun “*simples*” has been translated as “folk remedy,” since the word had this connotation since the sixteenth century; drawing juices from plants clashed with the preparation methods used by the sages (i.e., physicians). It should also be mentioned that Charlevoix addressed such topics as mineralogy, hunting methods, animal behavior, and, most especially, the nutritional properties of yerba mate among Amerindians in *Histoire du Paraguay* (Kobelinski, 2010, p.10).

In the vicinity of Lake Michigan, Charlevoix offered information on the properties of ginseng – *Aureliana canadensis* – (24<sup>th</sup> letter, Aug. 1721). His comparative eye highlighted the climatic differences between Canada and China in the configuration of this species. And there is nothing strange about his evoking the doctrine of signatures when he mentions the association between this plant’s roots and the human body. Going even further, the Jesuit ironizes the use of ginseng by the Iroquois: “The savage ... is persuaded that this plant has the virtue of making women fertile. ... This is the name that [the Chinese] give it and which means ‘resembling man’” (Charlevoix, 1744, p.316).

A rather classic distinction is also made between the folk remedies of the indigenes – who were not aware of all their principles – and the compounds prepared by doctors. This kind of disdain appears in an earlier piece of correspondence, in which Charlevoix accused the indigenes of charlatanism and ridiculed their religious precepts as responsible for false miracles (Charlevoix, 1744, p.219).

His 23<sup>rd</sup> letter (Oct. 1721) deals with agricultural activities, the challenges plants have in adapting to the harsh Canadian winter, the quality of seeds, and the continual assistance of women during harvest time, which came to a close with “a festival in August, with a banquet that is held during the night; the grains and other produce are preserved in holes dug in the earth, which are lined with bark” (Charlevoix, 1744, p.331).

He also writes of ferns on rocks, seeds, the harvesting of wheat, sunflowers, watermelon, squash, and different types of legumes. In relation to corn, he curiously advises that it provokes acidity in some people and also mentions its peculiarities, for example, “it is not an unpleasant food, but many people are convinced that too much is better than too little” and “when corn is on the stalk and still green, some people roast it on the fire, and it is very tasty” (Charlevoix, 1744, p.331-332).

Ethnographic information is provided in several places. Of special note is his 25<sup>th</sup> letter (Sep. 1721), which tells that the Iroquois and Huron extracted the juice of plants to treat fractures,

sprains, dislocations, and even to remove “foreign bodies from wounded areas” (Charlevoix, 1744, p.263). These data become real when the subjects are placed against the background of their environment, and, in this case (27<sup>th</sup> letter, Oct. 1721), Charlevoix once again mentions the Canadian landscape: “along this route we see nothing but immense meadows sown with clumps of small trees that seem to have been planted by hand” (Charlevoix, 1744, p.381). Later on, in his 29<sup>th</sup> epistle (Nov. 1721), he points out how important human actions on nature are, highlighting the use of the walnut tree in carpentry, medicine, and dyeing. They “resemble those in Canada and their roots have several properties that are not observed in the others. ... They are extremely delicate and their bark dyes black; but their main use is in medicine. They stop menstrual flow and are an excellent vomitive” (Charlevoix, 1744, p.407).

There is a variety of anthropic activities and these stand out within the context of the enormous colonial territory. The raising of tobacco, cotton, and indigo, as well as the abundance and diverse uses of plants (33<sup>rd</sup> letter, Feb. 1722), are the product of human effort to achieve dominion over nature. And this dominion encompasses knowledge of the properties of new plants. About the shrub that they named “*Apalachine*,” he writes: “it is a very small shrub, whose leaf serves as tea when infused. ... It is a fine solvent and an excellent sudorific, but its main quality is as a diuretic. The Spanish make great use of it throughout Florida and it is their common beverage” (Charlevoix, 1744, p.450). The bilberry was viewed in terms of its miraculous properties, as it “quickly cures dysentery,” in addition to being appreciated by the indigenes for its strange taste and medicinal properties – for example, as a relaxant during childbirth (Le Pan, 2007, p.56).

## Final considerations

It is remarkable how the Jesuit Pierre-François-Xavier de Charlevoix constructed an image of his sensibilities and knowledge that gained him prominence in French society. This prominence most certainly owed more to his writings about history than to his knowledge of botany. As stated earlier, for this Jesuit the natural environment was the foundation upon which human actions unfold over time. And if the system for classifying nature that Charlevoix adopted was not deemed suitable, the reasons behind this may have to do with the era's encyclopedism and the dissemination of knowledge, especially that based on direct observation, since there was then an intense rivalry between French and British periodicals, which endeavored to spread knowledge through the publication of numerous works. Perhaps this is the thorniest point for researchers, especially as far as the institutionalization of the sciences and their distancing from philosophy. In any case, if Charlevoix's eye was not exactly precise, his sensitive grasp of the Canadian landscape allowed him to paint his picture with perspicacity and a critical sense.

If human action was associated with the society of the Ancien Régime, we would do well to remember that the notion of ‘sensibility’ is tied to social stratification and to conduct related to nobility, honor, glory, and lineage (Dictionnaire de l'Académie..., 1694, p.462; 1762, p.410). Charlevoix belonged to an older line of nobility that had produced legal officers, aldermen, and mayors in Saint-Quentin. Thus, his family's proximity to the court facilitated his entrance into the Collège des Bons Enfants (168?-169?) and the Society of Jesus (1698). It

was no surprise that Charlevoix's participation in the training of teachers culminated with his appointment as director of the former establishment and his further studies at the Collège de Quebec (1705-1709). His teaching of grammar, languages, humanities, and philosophy brought him fame and status. When he returned to France in 1709, he was ordained as a priest and then made a professor at the Collège Louis-le-Grand, where he had studied during 1700-1704. He later held important posts and maintained close ties with those in power (Paquette, 1974, p.9). Charlevoix had a marked influence on teaching systems and systems of thought. His students held major posts in the Atlantic world; some became philosophers, such as François Marie Arouet de Voltaire (1694-1778). His ideas also influenced Jean-Jacques Rousseau (1712-1778) and François-René de Chateaubriand (1768-1848).

The picturesque facts about Canadian history and nature as recounted by Charlevoix appeared in the chief means of communication of his day: the monthly newspaper *Mémoires de Trévoux*, where he prepared his works, and in *Journaul des Savants*. In the first periodical, compilation for re-publication or even the writing of summaries was meant to disseminate knowledge. Charlevoix's dedication of his main work to the duke of Panthievreh and the narrative used therein evince his contact with a broader public, that is, the lettered members of the bourgeoisie and lesser nobility, which made it possible for him to reach the well-to-do classes, hungry for distinction and knowledge (Gagnon, 1994, p.25). It was his desire to create a remarkable, interesting, curious, and useful body of work. To this end, his most noted memories and actions should incite feelings of nobility and grandeur, even if his narratives were not "the *crème* of the history of the New World" (Charlevoix, 1744, p.1).

Charlevoix made the *Histoire et description générale de la Nouvelle France* an endless source of models meant to inspire its readers in their quest for courage and virtue. The narrative he employed endeavored to reconcile two types of languages, one popular and another more articulate. He was very adept at reconciling Christian ideology with critical method and a theological view of history. His world view went beyond botany. His concerns and political and emotional motivations contemplated territorial exploration, the use of natural resources, the state of evangelization, and administrative, social, and economic evolution. All of this was necessary because he believed that the annihilation of identity in overseas territories arose from the recognition of the failure of the French enterprise, the lack of financing, the absence of aid for settlers, and also the decline of the Society of Jesus.

## NOTES

<sup>1</sup> All citations from Allen were sourced from William Allen, *An American biographical and historical dictionary: containing an account of the lives, characters, and writings of the most eminent persons in North America from its first settlement, and a summary of the history of the several colonies and of the United States*, Boston, W. Hyde & Co., 1832.

<sup>2</sup> All citations from Karr were sourced from Alphonse Karr, "Soliloquy," in N. Cleaveland, *The Flowers Personified: Being a Translation of Grandeville's "Les Fleurs Animées"*, New York: R. Martin, 1849, p.9.

<sup>3</sup> In this and other citations of texts from non-English languages, a free translation has been provided.

<sup>4</sup> All citations from Foucault were sourced from Michel Foucault, *Order of things*, Taylor and Frances e-Library, 2005.

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