Map and Territory: The (New) France of Samuel de Champlain

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Abstract: The relationship between map and territory so important to General Semantics is usually assessed either theoretically or empirically with studies of language and thought, but here I would like to consider the issue historically by examining the early 17th century territorial settlement practices and geographical work of Samuel de Champlain. This exercise provides an opportunity for looking at the formation of territories and maps, and Champlain's practices of "knowing" the "natural world." If we examine Champlain's life, we can see that territories are not the stable "other" that Korzybski assumes them to be. The physical world --like language-- is subject to human intervention. The settlements built by Champlain and that defined "New France" in the 17th century developed precisely in the interstices between "language" and "world" that interested Korzybski, but they also developed from a relationship of "language" and "world" that Korzybski did not recognize -- material activities to bring physical reality into line with human language, desires, and political imagination. It is on this latter relationship that Korzybski's insights about the artifactual mediation of knowledge and the world can be developed to understand new areas of human experience.

The relationship between map and territory so important to General Semantics is usually assessed either theoretically or empirically with studies of language and thought, but here I would like to consider the issue historically by examining the territorial practices and geographical work of Samuel de Champlain. This exercise provides an opportunity for looking at the formation of territories and maps, and Champlain's practices of "knowing" the "natural world."

Samuel de Champlain was a geographer who devoted much of his life to mapping North America while looking for a northwest passage through the continent. He also tried to establish settlements there for a political territory: New France.[1] His career provides a basis for considering the usefulness and limits of Alfred Korzybski's conception of maps and territories, and the relationship between representations and material engagement in a period of territorial expansion.[2]

Looking at Champlain's geographical works, we can see immediately how his representations of New France – both maps and written descriptions -- were shaped by the discursive currents in French culture in his period, fitting in a broad sense Korzybski's assertions about the potential (or usual) distance between representation and the world we experience. But if we examine Champlain's life, we can also see that territories are not the stable "other" that Korzybski assumes them to be. The physical world --like language-- is subject to human intervention. Champlain's New France was simultaneously a geographical fantasy and a physical construct engineered to realize human dreams on earth.[3] The settlements that defined New France developed precisely in the interstices between language and world that interested Korzybski, but also developed

from a relationship of language and world that Korzybski did not recognize --material activities to bring physical reality into line with human language, desires, and political imagination.

Champlain helped establish a French territory in North America driven partly by the desire to seek heaven on earth, and then working to make New France more like Eden. His ideals of place – utopian dreams far from the reality of the territory he was exploring -- guided his efforts to colonize the landscape. And in the end, the settlements were able to endure (particularly through the rigors of the northern winters) with the establishment of gardens that served as Eden, both feeding the settlers and taming the wild land.

To make this case, I want to focus first on Champlain's famous 1612 map of New France. This map contains a finely detailed and highly precise representation of the coastline of North America—a piece of "science" (as Korzynski would consider it) in which representation and place are rigorously joined. But it is also decorated with an elaborate border that equates New France with Eden. This map is clearly not the territory that it represents. In the terms of Bruno Latour and Steve Woolgar, it is an immutable mobile that carries information about New France far from 17th-century North America,[4] and like all maps, it also conveys a perspective for viewing this land that is cultural as well as geographical.[5] So, both in its materiality and human conceptual orientation, this map is not the territory.

The 1612 map was designed by Champlain to show the coastline in detail, so it embodies the scientific goal of holding human representations close to the "territory"

they are meant to describe, but with its border, the map also was visually embedded in a dream of moral perfection and political desire that seemed to contradict this purpose. New France in Champlain's map was not simply a place on the earth where explorers could go. It was an idealized space of human imagination, carrying the weight of biblical stories and moral debates about the human duty to restore Creation to its perfect, original form.

One part of the decorative border on Champlain's 1612 map became famous (or infamous): representations of the "Indians" of North America. The geographer depicted two couples, mostly naked and drawn with bodies like fine Renaissance art figures, standing together like Adam and Eve. These pictures were clearly fanciful at many levels, but still not stereotypes of barbarians like the images of cannibals in Virginia by Theodore de Bry.[6] Champlain used European visual conventions and projected them onto North American people just like de Bry, but he understood the Indians in a discursive context from a very different tradition. Both men made maps in Korzybski's sense, grounded in language that obscured rather than enabled access to America. But Champlain's work was nonetheless different than de Bry's. Rather than presenting viewers with a titillating monstrosity to frighten and delight from afar, Champlain showed them a dream of Eden in New France that he helped to build upon and make real.

While Champlain's imagery of Indians is easy to treat as a distortion of reality and projection of cultural desires, the other evocation of Eden in the map border suggests a more complex relationship of maps to territory during European expansion. Along the bottom, Champlain sets out a visual strip of plants, representing the garden, but also

using the visual conventions of botany for the period. The "portraits" of plants are like those in herbals. On the left side of the border, the specimens are even named—making them look more like plant types in an herbal.[7] On the right half of the border, the plants are simply drawn and not named, resembling more a set of discreet specimens in a botanical garden.

The plant portraits on the 1612 map could be dismissed as idealized representations, imposing European visual conventions on flora in much the same way as the images of native couples. They were stylized to foreground identifying features-- like European botanical drawings in this period. They did not have dead or broken leaves, and they were not presented with pests on them or with root structures.[8] But they were still scientific representations designed to link language and experience in a precise way, so in Korzybski's terms, they were significantly different than Champlain's Adam and Eve figures.

The idealized quality of the plant portraits nonetheless gestured toward Eden—the garden in perfect form. Plant portraits of the sort used by Champlain were not only part of the gardening literature, but also spiritual symbols for Huguenots. Some painted them, for example, on the ceilings of their houses to represent heaven (on earth).[9] Maps themselves were understood as media for learning about God through His Works.[10] Plant portraits helped evoke these religious associations on maps, including Champlain's 1612 map.

From Korzybski's perspective, Champlain's 1612 map had two quite distinct relationships to its territory, one defined by scientific interest in representational

precision, and one by religious interest in evoking spiritual desire. For Champlain, however, there was no contradiction between wanting to know God and wanting natural knowledge. They were the same. Nature was Creation, and knowing it well was a sign and tool of religious devotion. Exploration and botanizing were means of finding God through natural knowledge.

Korzybski's description of the connections and disconnections of maps and territories proves useful for understanding the idealization of the territory in Champlain's map, but it does not fare so well in accounting for his life—his exploration and colonization activities. When the explorer-geographer was helping found a territory, discourse or language took on a different significance not as the opposite of experienced reality, but a tool for changing it.

Understanding the discursive and moral context behind Champlain's colonization of New France requires some knowledge of the political era in which he went to sea. Champlain was sponsored in his travels by the king, Henri IV – a personable and ambitious monarch who may have been his father.[11] The king and Champlain both were Protestants, and converted to Catholicism at roughly the same time, but remained motivated by moral values of stewardship and tolerance. Whatever their relationship, Henri IV had a fondness of Champlain, and supported his efforts to establish New France even against the advice of his favorite minister, Sully.[12]

In his politics, Henri IV was drawn to the idea of territorial stewardship because it had some political traction because of its moral inflection. Although he was well liked by ordinary people, Henri IV faced strong opposition to his government from Catholic elites

because of his faith, so he had to struggle to gain political legitimacy through his policies. To this end, he embraced programs of territorial improvement and material well-being through infrastructural innovation and rational land use practices. Understanding and using the earth well that were at the heart of his government and also picked up by Champlain, guiding his life in New France.[13]

The turn toward land improvement in this administration made surprising practical sense for Henri IV. During the wars of religion (Camplain's childhood), fighting forces under Catholic and Protestant leaders devastated towns and villages as they tried to impose (or reimpose) their faith on the local population. Henri IV called for religious tolerance, but this was easier to advocate that conjure into being. The Catholic Church and the many powerful noble families that belonged to it were opposed to Henri IV and questioned the legitimacy of a non-Catholic monarch on the French throne. His faith became such an issue that the king finally converted to Catholicism, but not before he started to make land improvement and territorial governance a cornerstone of the administration. [14]

Henri IV was guided in land use policies by the ideas of Olivier de Serres who outlined principles of *mesnagement* politics or public administration through works of stewardship.[15] Stewardship was a moral duty for a Christian king, and a way to shift the focus of the warring sects in France away from conflicts over doctrine. Clashes of words seemed only to stimulate clashes of swords and cannon fire. But just as humanity had the duty to restore Eden after Adam and Eve had destroyed it, the king had a duty to restore his kingdom after the wars to its perfect, original form. Restoration could be done by

individual estate owners, according to Serres and his counterparts, using horticulture and land cultivation practices from the ancients and modern authors, such as Charles Estienne and Bernard Palissy.[16] They had the technical knowledge for bringing peace and prosperity back to the countryside, linking Christian theology to gardening practices.

One of the most famous *mesnagement* writers, Bernard Palissy, who came from the same part of France as Champlain, quoted the 104th psalm to explain this linkage of land and knowledge of God.[17]

> He causeth the grass to grow for the cattle,
> And herb for the service of man:
> That he may bring forth food out of the earth:
> And wine that maketh glad the heart of man,
> And oil to make his face to shine,
> And bread which stengtheneth man's heart....
> O Lord, how manifold are thy works!
> In wisdom hast thou made them all….[18]

For Palissy, the earth itself documented the will and power of God, and so studying it carefully and using it well were deeply spiritual acts.

> I came to consider the marvellous deeds which the Sovereign has commanded Nature to perform; and among other things I contemplated the branches of the vines, of peas, gourds, which seemed as though they had some sense of their weak nature; for being unable to sustain themselves, they stretched certain little arms like threads into the air, and finding some small branch or twig, came to unite and attach themselves, never again to part thence, that they might sustain the parts of their weak nature.... [W]hen I had seen and contemplated such a thing I could find nothing better than to employ oneself in the art of agriculture, and to glorify God, and to recognize Him in His marvels....[19]

Olivier de Serres made a political philosophy out of ideals of restoring the earth. Stewardship was the key to political leadership in France.

> As much as the father of the family is adorned in these qualities [of stewardship], and has made himself knowledgeable in all the aspects of rational land

> management, leading his workers firmly, who will follow him all the more willingly if they know by experience that his orders are reasonable and profitable... Not only in estate management is such great solicitude and vigilance required, but also in all action in the world; neither are kings exempt from keeping knowledgeable about their own affairs, so they can so much more readily make things happen the more curiously they study and understand them; this maxim seems usefully verified in the establishment of this realm by the virtuous conduct of our king, Henri IV.[20]

Serres argued that the state should be understood as a great estate, and should be improved physically to realize God's will on earth. Territorial politics was not simply a matter of representation and claiming, but of forging a new material order to enhance the well-being of people. Where estates, towns and fields had been destroyed by war, and forests stripped of trees to rebuild fortifications or lay siege to them, a good leader could rebuild community life and the material well-being of people using new techniques of botany, horticulture, forestry and animal husbandry described in *mesnagement* literature.

Geography, Champlain's *métier*, was a tool in this period not only for European expansion, bust also for gaining natural knowledge, knowing God, and restoring the land. Many European voyages of discovery were understood in terms of stewardship. Explorers would not only make maps of the earth, but also seek out plants to reassemble the flora that had been dispersed from Eden by the Fall. Men like Champlain often botanized in their travels or took botanists with them to study new specimens and learn about their cultivation and uses.[21] Even early atlas makers like Mercator thought of geography as a way to understand Creation, learning about God through his Works. And surveys were part of *mesnagement* programs of land improvement, allowing those who controlled land to consider rationally where to place gardens or fields or pastures.[22]

And Samuel de Champlain was a geographer of his times, and approached his studies with a similar orientation, equating natural knowledge and spiritual desire.

This view of the world was also appropriate for Champlain because grew up in an area full of Protestants near the Atlantic Coast of France called the Saintonage. This is where Bernard Palissy had lived and worked, and during Champlain's childhood was still populated by many who adhered to the reformed faith. This part of France had been devastated during the wars of religion, but the population when he reached adulthood was unusually tolerant, being sympathetic to the politics of Henri IV.[23] This was also an area of farms and salt flats where the earth was made productive and orderly through careful labor—a model of *mesnagement*. Here the work of men and women visibly improved on the Works of God, and allowed the earth to realize its "natural productivity" through the application of reason and natural knowledge.

Champlain was not a gardener, but he developed an interest in botany and horticulture early in his career, and remained a plant collector during his travels. His first voyages were to the Caribbean, where he made sketches of native species such as rubber trees, emphasizing their useful qualities. Then Champlain traveled to New France. As an explorer working for the king, he was meant to look for a northwest passage to India, but during his travels, what interested him most was the earth and its creatures – Creation itself.

Champlain approached North America with Creation on his mind. He saw in the natives the innocence of Adam and Eve, and he saw in the fertile land of this new continent evidence of God's wonders. Much of his journal was dedicated to describing

the flora of North America, and particularly Indian cultivation methods, and the plants that they had found in the countryside to use.

> We saw their Indian corn, which they raise in gardens. Planting three or four kernels in one place, they then heap up about it a quantity of earth with shells of the signoc before mentioned. Then three feet distant they plant as much more, and thus in succession. With this corn they put in each hill three or four Brazilian beans,[febues du Brésil] which are of different colors, and as they grow up, they interlace with the corn, which reaches to the height of from five to six feet; and they keep the ground very free from weeds.... We saw there many squashes [citrouilles] (65) and pumpkins [courges] and tobacco, which they likewise cultivate. (66) …. We also saw a great many nuts, which are small and have several divisions. There were as yet none on the trees, but we found plenty under them, from the preceding year. We saw also many grape-vines, on which there was a remarkably fine berry, from which we made some very good verjuice.[24]

Champlain not only made his famous maps of North America, but also sketches in his journal of the settlements of Indians and colonists in New France. In the journal, he recorded his travels and observations of the territory, emphasizing the industriousness of his comrades in transforming the land to make it habitable and sustaining. About the Isle Ste. Croix before their first winter there, he wrote:

> ...work on the houses went on vigorously and without cessation; the carpenters engaged on the storehouse and dwelling of Sieur de Monts [the head of the expedition --from the Saintonage], and the others each on his own house, as I was on mine….An oven was also made, and a hand-mill for grinding our wheat, the working of which involved much trouble and labor… Some gardens were afterwards laid out, on the main land as well as on the island. Here many kinds of seeds were planted, which flourished well on the main land, but not on the island, since there was only sand there.[25]

His enthusiastic depiction of the work used to build the settlement on the Isle St. Croix is particularly ironic because the first winter there went so badly. To be safe, the French built their town on an island, but since the soil there was sandy, they set out most

of their gardens on shore. What they could not anticipate was that ice from farther north would begin to float down the river and cut the island off from the shore before the harvest was in. So, the colonists starved that winter, suffering from bad outbreaks of scurvy and dying in large numbers.[26]

Champlain's pictures of Isle St. Croix and later settlements, much like his verbal descriptions of them, contained two notable elements –structures and gardens. Surviving in New France was difficult, but Champlain still wrote glowingly about the industriousness of the colonists, the natural fertility of the soil, and the abundance of their gardens that he attributed to God, not the work of men:

> Aside from God, we are not to give the praise for this to the laborers or their skill, for it is probably that not much is due to them, but to the richness and excellence of the soil, which is naturally good and adapted for everything… not only for purposes of tillage and the cultivation of fruit-trees and vines, but also for the nourishment and rearing of cattle and fowl, such as are common in France.[27]

Champlain looked at the "territory" he was exploring through the lens of a good steward. He saw the land as Creation, and thought about how it could be improved to make it more like France and Eden at the same time. He did not curse the weather and bad luck that had killed so many of his comrades and friends, but rather looked for the beneficent hand of God at work on the earth.[28]

If the territory of New France was difficult to colonize, the map of possibility carried by Champlain in his journal at once described a fictive future for the colony and empirical details of the territory and the settlement there. Having left St. Croix, the

would-be colonists moved to Port Royal, where they learned to fish with nets as the local Indians did. They also made multiple gardens to keep themselves alive. Traveling in summer to look for the northwest passage limited the period of cultivation, and kept the colony near starvation again, but this did not dispel Champlain's hope for the enterprise and neither did it keep him from making careful note of the physical means by which they lived.

That Champlain's work and life was infused with *mesnagement* ideals – the pursuit of tolerance and natural knowledge to make the earth more peaceful and productive—is even more evident by his tolerant views of native customs. He described in some detail the acts of brutality some tribes used against enemies after they had vanquished them in battle. He did not write of them as barbarous, or express outrage. Rather he wrote of his hope to teach them different values and help them become converts to Christianity and give up such practices. He abhorred the pain, and refused to participate in the cruelty, but he was still tolerant of their ways of being in the world.[29]

The relationship of map and territory began to change significantly in New France with the arrival of a gardening expert – a man capable of making the land more like Eden. Louis Hébert came with his family, too, bringing a domesticity to the settlement that had its own calming effect. Louis Hébert was an apothecary and skilled horticulturalist, who came to Quebec in 1616.[30] He created a permanent agricultural infrastructure for the colony with his knowledge and his family's labor. Now, New France could be made more edenic on the ground, and not just imagined that way.

Louis Hébert, like many of those knowledgeable in pharmacopia during this

period, not only studied the medicinal uses of plants, but also plant cultivation and botanizing. As Europeans traveled, they looked for and collected new species, particularly those with clear medicinal uses, and tried to cultivate them in gardens to have a permanent supply.[31]

Botanical gardens associated with medical schools had started proliferating in Italy during the 16th century. These gardens were sites of careful study of the growth habits of medicinal plants as well as their uses. The gardeners there faced problems of acclimatizing foreign species to local climates, and began experiments in horticulture that affected all European gardening—both in style and substance.[32]

Most early botanical gardens were set out as formal gardens, using knot patterns to group plants and separate them at the same time. Using geometrical forms, often circles representing perfection, these were evocations of Creation, models of the orderliness of nature assumed to have characterized Eden.[33] In botanical gardens, the point was to assemble useful plants and gain natural knowledge, and the garden designs provided visual evidence of the order of nature.

In France, botanical gardening was spurred by *mesnagement* politics. Henri IV provided the letters of patent for the medical school at Montpellier to build a botanical garden like those in Italy to increase the repertoire of useful species in France.[34] *Mesnagement* authors had advocated the accumulation of botanical and pharmacological specimens, describing herb gardens as just as important as kitchen gardens to a well-run estate. Apparently, Henri IV took this idea to heart, when he authorized the development of a major botanical garden for his kingdom.[35]

Scholars who worked in these gardens navigated the difficulties identified by Korzybski between words and the natural world. Some wrote books on the collections, codifying their knowledge (or misunderstandings) in print. On botanizing trips, too, they searched for plants that had been described in books by the ancients, and they used plant portraits in herbals to try to organize the names of species and to make them identifiable to readers. In this period, plants often had different vernacular names, and no one knew for sure which were the same and which were different. These portraits were a remedy, standing for the world next to the botanical text. The pictures published in these early herbals foregrounded the identifying features of the plants –just like the images used by Champlain on his 1612 map.

Hébert brought this tradition of plant collection, adaptation and cultivation to New France, and made gardens that imposed new order on the wild land. The family of gardeners contributed first to the health of the colony by growing foodstuff from European seeds. In learning how to adapt them to his gardens in the New World, Hébert began to make the landscape of North America physically more like France.

Champlain was cheered by what the Héberts were able to achieve at Port Royal.

> I visited the cultivated land, which I found planted with fine grain. The gardens contained all kinds of plants, cabbages, radishes, lettuce, purslain, sorrel, parsley, and other plants, squashes, cucumbers, melons, peas, beans and other vegetables, which were as fine and forward as in France. There were also vines, which had been transplanted, and already well advanced.[36]

Champlain drew the Hébert garden in his journal, depicting it as European-style botanical garden with knot patterns.

The Hébert garden was not only a bit of France in the New World, but also a site

of collection of indigenous species. Champlain brought specimens back to the colony from his trips into the interior or down the coast of North America. Hébert cultivated them, and learned from the local Indians about their uses. Some of these species were described by Jacob Cornuti in his Canadensium Plantarum Historia based on plants that had been sent to Paris from New France. With this transfer of specimens, the gardens of old France and New France again became more alike, both assembling plants that had been dispersed across the earth.[37]

Interestingly, Hébert's knowledge of indigenous species did not travel with the plants to Paris. In his discussion of Jack in the pulpit, Cornuti did not attribute medical virtues to the plant. But Hébert had learned from the Micmac Indians to boil the roots to use for stomach problems. This natural knowledge either did not reach or did not have authority for Parisian botanists.

Still, the colony in New France became physically more French as Louis Hébert cultivated the landscape and sent back new species to France. The dream of a New France was being realized on the ground. This territory was a not mute and stable part of nature itself, but rather a site of human activity to improve and make fit the dream of living in Eden.

Champlain, Hébert and the other settlers made a territory for France in the middle of North America by changing the land to make it fulfill political ambitions and moral ideals through practical action on the earth. The result was not only a place claimed on paper, but also a territory that was made French with gardens that evoked and imitated Christian ideals. With Hébert's arrival, New France started to become what Champlain

sought and symbolized in his 1612 map: a site of territorial stewardship, using natural knowledge to restore Creation to its edenic form.

Champlain represented New France with his maps in ways that revealed his desires as well as his knowledge. But he also demonstrated that language is not only a medium shaping and limiting human experience of the world, but also one used to approach the earth itself. Champlain not only mapped Creation to display its abundance and beauty, but also to help build a territory worthy of Creation—itself a model of governance.

NOTES

[1] David Hackett Fischer, Champlain's Dream. New York: Simon and Schuster, 2008.

[2] Alfred Korzybski coined the expression "a map is not a territory" in "A Non-Aristotelian System and its Necessity for Rigour in Mathematics and Physics," a paper presented before the American Mathematical Society at the New Orleans, Louisiana, meeting of the American Association for the Advancement of Science, December 28, 1931. Reprinted in *Science and Sanity*, 1933, p. 747–61.

[3] Fischer, Champlain's Dream, pp. 6-11.

[4] Bruno Latour and Steve Woolgar, Laboratory Life. Beverly Hills: Sage, 1979.

[5] See for example, Thomas Frangenberg, "Chorographies of Florence: The Use of City views and City Plans in the Sixteenth Century" Imago Mundi 1994 46: 41-64 or Josef W. Konvitz, Cities and the Sea: Port City Planning in Early Modern Europe Baltimore: Johns Hopkins University Press, 1978

[6] Michèle Duchet et al., L'Amérique de Théodore de Bry. Paris : CNRS, 1987; Michael Foss, Undreamed Shores (New York: Scribners), 1974.

[7] See, for example, Charles Plumier, Description des Plantes de l'Amerique, avec les figures par le R. P. Charles Plumier, Religieux Minime. Paris: l'Imprimerie Royale, 1693; John Hill, The Useful Family Herbal. London, W. Johnston...1755; Marcus Woodward (ed.) Gerard's herbal. The history of plants (London, Senate 1994). Not all herbals had illustrations, and some were more intertextual than ostensive. See for example, Westmacott, William 1695 Historia vegetabilium sacra or, A Scripture herbal: wherein all the trees, shrubs, herbs, flower, fruits &c. mentioned in the Holy Bible, are in an alphabetical order, rationally discoursed of. London: Printed for John Salusbury.

[8] For thinking about the scientific value of idealized vs. realistic imagery, see J. Law and M. Lynch, "Lists, Field Guides, and the Descriptive Organization of Seeing: birdwatching as an exemplary observational activity." In Michael Lynch and Steve Woolgar, Representation in Scientific Practice. Cambridge: MIT Press, 1990.

[9] The ceiling of the library at the château de Cerisy-la-Salle is an example.

[10] Chandra Mukerji, "Printing, cartography and conceptions of place in Renaissance Europe." Media, Culture and Society, 2006 28(5): 651-669, particularly 663.

[11] Fischer, Champlain's Dream, pp. 44-47.

[12] Fischer, Champlain's Dreams, pp. 70-71.

[13] Fischer, Champlain's Dreams, pp. 44-50.

[14] Fischer, Champlain's Dreams, pp.51-55. For Champlain's conversion, see Fischer, Champlain's Dreams, pp. 55-56.

[15] For Serres' role in developing administrative policies for the state, see also Serres, The Perfect Use of Silk-Wormes. London 1607. Amsterdam and New York: Da Capo Press, 1971.

[16] Charles Estienne, Maison Rustique or The Country Farme. Compiled in the French tongue by Charles Stevens and John Liebault, Doctors of Physicke. And translated into English by Richard Surflet Practioner in Physicke, London: Printed by Arnold Hatsfield for John Norton and John Bill, 1606; Bernard Palissy, Recepte véritable. K. Cameron (ed.). Génève: Libr. Droz, 1988; Frank Lestringant, "L'Eden et les Tenèbres Extérieures" in Frank Lestringant, Bernard Palissy 1510-1590, l'écrivain, le réforme, le céramiste. Coédition Association Internationale des Amis d'Agrippa d'Aubigné- Éditions SPEC, 1990, pp. 167-180.

[17] Bernard Palissy, A delectable garden, by Bernard Palissy. Helen Morganthau Fox (trans. & ed.) Peekskill, NY: The Watch Hill Press, 1931, p. 2. For an analysis of *mesnagement* estate books, and religious conflict, see Chandra Mukerji, "Bourgeois Culture and French Gardening in the sixteenth and seventeenth Centuries," in Bourgeois Influences in Garden Design. Michel Conan (ed.). Washington, D. C.: Dumbarton Oaks Press, 2002, pp. 173-188.

[18] Palissy, A delectable garden, introduction by Fox, pp. xxv-xxvi

[19] Henry Morely, Palissy the potter. The life of Bernard Palissy, of Saintes, his labours and discoveries in art and science. London: Chapman and Hall, 1852, vol II, pp. 241-242.

[20] Olivier de Serres, Théâtre d'agriculture et mesnages des champs. Genève: Mat Hiev Berjon, 1611, pp. 28-29.

[21] Richard Drayton, Nature's Government. New Haven: Yale, 2000.

[22] Mercator, Gerhard 1613 Atlas minor de Gverdard Mercator, traduict de Latin en François par le Sieur de la Popleliniere Gentilhomme Francois anno 1613 (Amsterdam: Iudoci Hondij); Palissy, Delectable Garden.

[23] Fischer, Champlain's Dreams, pp. 30-41.

[24] Champlain, Voyages of Samuel de Champlain, 1604-1618. William Lawson Grant, ed. New York: Barnes of Noble, 1959, pp. 62, 65-66

[25] voyages, p. 42-43.

[26] Fischer, Champlain's Dreams, pp. 171-172

[27] Champlain, Voyages, pp. 349.

[28] Fischer, Champlain's Dreams, pp. 172-173.

[29] Champlain, Voyages, 184-187; Fischer, Champlain's Dreams, pp. 271-273.

[30] Fischer, Champlain's Dreams, pp. 350-352

[31] Davy de Virville, Histoire de la Botanique en France. Paris: Société d'Édition d'Enseignment Supérieure, 1954; Marguerite Duvall, The King's Garden. Tomarken & Cowen (trans.) Charlottesville: University Press of Virginia, 1982; Lucia Tomasi, "Projects for Botanical and Other Gardens: a 16th-Century Manual." Journal of Garden History, 1983 3:1-34.

[32] Duvall, The King's Garden. pp. 15-17, 57-61; Virville, Histoire de la Botanique en France.; Tomasi, "Projects for Botanical and Other Gardens." Journal of Garden History, 3:1-34; Bonnefons, Nicolas de. Le iardinier francois : qui enseigne a cultiver les arbres, & herbes potageres : avec la maniere de conserver les fruicts, & faire toutes sortes de confitures, conserves, & massepans ... Cinquiesme edition / reveue par l'autheur. A Amsterdam : Chez Iean Blaeu, 1654.

[33] And for a discussion of the edenic possibilities of botanical gardening, see John Prest, The Garden of Eden: The Botanic Garden and the Re-Creation of Paradise. New Haven: Yale University Press, particularly pp. 38-53.

[34] The university was first founded by Jews, and used Arab medicine as a basis for study. See Ellison Hawks, Pioneers of Plant Study. Freeport, N.Y.: Books for Libraries Press, [1928] 1969, p. 98. The medical lectures at Montpellier were first authorized by Henri II. Henri IV was the monarch, however, who advocated the collection of live plants at Montpellier. See Duvall, pp. 22, 27-28. Arthur R. Steele in Flowers for the King. Durham: Duke University Press, 1964, p. 11 comments about its development in the 17th century: "In an institution of learning so widely renowned for medical training, the latter garden [at Montpellier] was, strangely enough, designed not merely to teach physicians and to study 'simples,' but to help solve problems of the farm and economy in general." There was actually nothing strange about this given Henri IV's interest in *mesnagement* principles, and their importance for the founding of this garden.

[35] Duvall, pp. 1-7, 19-30, 55-56, 61; André Bailly, Défricheurs d'Inconnu. Aix-en-Provence: Edisud, 1992, pp, 68-69; and Raymond Frank Paskvan, The Jardin du Roi: The Growth of its Plant Collection 1715-1750. Doctoral Dissertation in History from the University of Minnesota, 1971, pp. 13-15.

[36] Champlain, Voyages, 348-349.

[37] Jacques Mathieu, Le Premier Livre de Plantes du Canada. Saint-Foy: Les Presses de l'Université Laval. 1998 which contains the Canadensium Plantarum Historia de J.-PH Cornuti of 1635. See also Chandra Mukerji,. "Dominion, Demonstration and Domination: Religious Doctrine, Territorial Politics and French Plant Collection" in Colonial Botany: Science, Commerce, and Politics in the Early Modern World. In Londa Schiebinger and Claudia Swann, eds. University of Pennsylvania Press, 2005.