NOTES AND RECORDS
Check for updates

Notes Rec.
doi:10.1098/rsnr.2023.0068
Published online

LOSING FOREIGNNESS: JOHANN SIGISMUND ELSHOLTZ ON THE MEANING OF PLANTS IN THE PLEASURE GARDENS OF BERLIN

by

TRACY WIETECHA*

Max Planck Institute for the History of Science, Boltzmannstrasse 22, 14195 Berlin, Germany

As a result of trade and commerce in global empires, plants from around the world could be found growing in gardens throughout Europe, including Germany. Johann Sigismund Elsholtz (1623–1688), a member of the Leopoldina scientific academy, would never personally travel to the Americas or Asia, but he had direct experience with plants from abroad under his care in the pleasure gardens of Berlin. Elsholtz composed several editions of a work that focused on the role of climate in growing a garden. For it was the climate, and not so much the soil, that posed the most significant challenge for the gardens he supervised, especially for the foreign plants. Curiously, Elsholtz's work is selective on which plants it categorizes as foreign; the category is also malleable, and proper acclimation of a plant was a first step for it no longer to be called foreign. In this paper, I explore the question of how plants lose their foreignness and take on a new, domestic meaning.

Keywords: American *materia medica*; pleasure gardens; Johann Elsholtz; climate; classification; seventeenth-century botany

INTRODUCTION

'This [potato plant] is also not found in the old herbal books but is a new plant from Peru …. These potatoes are eaten … as a nourishing food because they have now become quite common (*gemein*) among us.'[1] So wrote Johann Sigismund Elsholtz (1623–1688) in the entry on the potato plant in his 1682 printed work *De Diaeteticon*, a book about how to maintain good health through a proper diet. In these few lines, Elsholtz points to two seemingly contradictory qualities of the potato plant. The potato is a new plant, which

*twietecha@mpiwg-berlin.mpg.de

1 Johann Sigismund Elsholtz, *De Diaeteticon: Das ist, Newes Tisch-Buch, Oder Unterricht von Erhaltung guter Gesundheit durch eine ordentliche Diät, und insonderheit durch rechtmäßigen Gebrauch der Speisen, und des Getränckes* [New Table Book, Or Instruction of Preservation of Good Health by a Proper Diet, and in Particular by Proper Use of Food, and Drink] (Schultze, Cölln an der Spree, 1682), p. 31. Available from: Bamberg Staatsbibliothek (accessed 15 December 2022): '*Dieses ist gleichfals in den alten Kreuterbüchern nicht zu finden, sondern ein newes Gewechs aus Peru … Man isset aber diese Tartuffeln … als eine nährende Speise, weil sie nunmehr zimlich gemein bei uns worden.*'

originates in Peru and thus cannot be found in old herbal and cooking books. But Elsholtz also assigns it the quality of familiarity—the potato is common 'among us' because it has already been incorporated into the daily diet of those to whom Elsholtz directs his comments. As I will explain in more detail below, it was the relations between the plant itself, those who came into contact with the plant (such as Elsholtz and the inhabitants of Berlin) and the environment inhabited by both that made it possible for the new potato plant to be called 'common'. These relations changed the diet of people in the region, and as the daily diet of Berliners changed, so did the meaning of the plant.

But what exactly needed to occur before a plant could take on that new meaning? First, the potato plant had to be successfully acclimated and cultivated within the particular environment, but acclimation alone was not sufficient to change the plant's meaning—that required the experience of the potato as food and the consequent change in people's palates, making the potato a staple food. Considered as an object, it was new, but considered from the perspective of the relation between the potato, the environment and the people who now ate it as a staple, the potato plant was familiar.[2]

Before his appointment as head of the pleasure gardens in Berlin, Elsholtz had penned a work on the layout and design of the gardens, complete with an alphabetical catalogue of all the plants growing there. His fascination with plants is easily identified in his works, as he often remarks on the beauty—or even the comical appearance—of a plant he has observed. Though Elsholtz shared his passion for plants with many gardeners, collectors and botanists of his time, he stands out from them because of his emphasis not on the rarity or exotic qualities of plants, as seen in the examples discussed in Florike Egmond's work, but on qualities that remove the categorization of foreignness or exoticness, often to the extent that the plant in question is no longer considered foreign at all, but 'common'.[3]

In this paper, I use Elsholtz as a case study to ask how plants lose their foreignness and take on another meaning. I will draw upon the actors' categories of utility (*utilitas*) and pleasure (*delectatio*) as two aims of a garden in order to explore how the meaning of a plant changes through acclimation within the garden itself, through the plant's material transportation from abroad to Europe and through the actual experiences that change the palates of people who add the plant to their diets. I will argue that, for Elsholtz, the process by which a plant takes on a new meaning within its environment is not a change of the ontology of the plant itself, but a change in the plant's function of pleasure or utility. I present this argument by reconstructing the relations between Elsholtz, the plants he cared for and the environment that they both inhabited. As I will explain, the literary genre of my sources is almost like a diary that grows over time, reflecting Elsholtz's increasing familiarity with the plants. As such, Elsholtz is not laying down a clearly demarcated science or theory, but persuading his readers of the beauty and utility of his chosen plants. Here, I analyse what I find in these works to show that, for Elsholtz, the dual functionality of use and pleasure within his own environment was able to erase foreignness and reconfigure the meaning of a plant.

2 For a study of how sugar as a material went from luxury to staple, see Sidney Mintz, *Sweetness and power* (Penguin, New York, 1986).

3 Florike Egmond brings together the three themes of exotic rarity, passion, and collecting and gardening in her study of 'emerging experts' in the southern Netherlands. Florike Egmond, *The world of Carolus Clusius* (Pickering & Chatto, London, 2010), pp. 25–44.

Johann Sigismund Elsholtz

Johann Sigismund Elsholtz was a physician and botanist in Berlin and the personal physician to Friedrich Wilhelm of Brandenburg. Having completed study tours in Holland, France and Italy, Elsholtz obtained his doctorate in Padua, Italy. His research interests included intravenous injections, as explored in his 1665 work *Clysmatica nova*, and experiments on the distillation of paints, as seen in his 1674 work *Destillatoria Curiosa*.[4] The scarce secondary literature on Elsholtz has identified him as the first to use the word *hygiene* in German.[5] Studies have also been made of his intravenous injections and his use of garden tools.[6]

Accepted as a member of the Academia Naturae Curiosorum (today known as the Leopoldina) in 1674, Elsholtz published more than 15 observations (*observationes*) in the academy's journal, *Miscellanea Curiosa*, on topics such as human conception and the dissection of hearts. A scientist with many passions and pursuits, Elsholtz was also a prolific writer on building and maintaining gardens, the growth and cultivation of plants in the climate of Berlin, cataloguing plants in the gardens there and the proper preparation of plants and herbs for a healthy diet. Already active as a physician in Berlin since 1653, Elsholtz completed his *Hortus Berolinensis* on the pleasure gardens of Berlin in 1657, though it was never published.[7] As Elsholtz himself wrote, his intention was to produce a history and description of the gardens with a catalogue of its plants, as had been done for famous gardens throughout Europe,[8] but it seems he also had a personal motive for his cataloguing activity. Upon completing the work in only one and a half years, Elsholtz was placed in charge of the Berlin pleasure gardens in 1657.

After his appointment as head of the gardens, Elsholtz continued to produce works that inventoried all the gardens under his supervision. A catalogue of the plants in the pleasure gardens of Berlin, Brandenburg, Oranienburg and Potsdam is found in his 1663 work *Flora Marchica*.[9] In more than 200 pages, Elsholtz lists the plants alphabetically in their Latin nomenclature along with their German names. He includes references to sources and in some cases also a very short description.

4 Johann Sigismund Elsholtz, *Clysmatica nova* (Georg Olms, Hildesheim, 1966; first published 1665); Elsholtz, *Destillatoria Curiosa, sive Ratio ducendi liquores coloratos per alembicum, hactenus si non ignota, certe minus observata atque cognita* [A Curious Distillery, or the Method of Conducting Coloured Liquors through a Still, Hitherto if not Unknown, Certainly Less Observed and Known] (Velcheros, Berlin, 1674). Available from: Bayerische Staatsbibliothek (accessed 3 November 2023).

5 K. Fiedler, 'Der vergessene Wegbereiter deutschsprachiger Hygiene: Ergänzung zur Arbeit von Undine Thofern: Hygiene—Entwicklung und Wandlung eines Begriffes', *Zentralblatt für Hygiene und Umweltmedizin* **200**, 334–340 (1997).

6 E. Gladstone, 'Johann Sigimund Elsholtz: *Clysmatica nova* (1665): Elsholtz's neglected work on intervenous injection', *Cal. West. Med.* **38**, 432 (1933); **39**, 45, 119, 190. M. Sachs, 'Die Entdeckung der intravenösen Injektions- und Infusionstherapie durch Johann Sigismund Elsholtz (1623–1688)', *Zentralbl. Chi.* **116**, 1425–1432 (1991). Karola Kröll, 'Gießgefäße aus Ton Zur Verwendung eines ungewöhnlichen Gartengeräts im Mittelalter und in der Frühen Neuzeit', *Zandera* **19**, 1–6 (2004).

7 The manuscript can be found at the Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Abteilung Handschriften und Historische Drucke, MS boruss. qu. 12. Book one was translated from Latin into German in 2010. See Johann Sigismund Elsholtz, *Hortus Berolinensis—Der Berliner Lustgarten, Liber Primus—Erstes Buch* [The Berlin Pleasure Garden, Book One] (ed. and trans. Thomas Fischbacher and Thomas Fink) (Verlag und Datenbank für Geisteswissenschaften, Weimar, 2010).

8 See, for example, Petra Feuerstein-Herz, 'Garten und Buch. Zur Repräsentation der europäischen botanischen Gärten im Buchdruck des 16. bis 18. Jahrhunderts', in *Botanische Gärten und botanische Forschungsreisen* (ed. Ingrid Kästener and Jürgen Kiefer), pp. 93–112 (Shaker, Aachen, 2011).

9 See Johann Sigismund Elsholtz, *Flora Marchica sive catalogus plantarum, quae partim in hortis Electoralibus Marchiae Brandenburgicae primariis, Berolinensi, Aurangiburgico, & Potstamensi excoluntur: partim sua sponte passim proveniunt* [Flora Marchica, or a catalogue of plants, which are cultivated partly in the primary Electoral gardens of the Margraviate of Brandenburg, of Berlin, of Oranienburg and of Potsdam: partly of their own accord] (Reichel, Berlin, 1663). Available from: Bamberg Staatsbibliothek (accessed 15 December 2022).

Further works by Elsholtz include his 1682 *De Diaeteticon*, which emphasizes the relationship between edible plants and the health of the human body. In this text, Elsholtz combines the nomenclature, accurate description and Galenic 'temperament' of plants with practical instructions on preparing them as food. In his 1684 *Vom Garten Bau*, titled *Neu Angelegter Garten Bau*, in an updated edition published posthumously in 1690, Elsholtz explains how to design and grow a garden under the specifically challenging conditions of the climate in the Berlin–Brandenburg area.[10] It is this work in particular that reads like a diary. The entries in its first edition are often brief, whereas the subsequent edition includes more details on growing particular plants, such as how to care for plants that originate in warm climates over the long, cold and harsh Berlin winters.

Elsholtz's works cataloguing plants and giving information on garden design, cultivating plants and preparing food for a healthy diet combine scholarly sources with personal experience and practical advice and instructions. The pool of scholars upon whom Elsholtz draws includes the Swiss botanist Caspar Bauhin (1560–1624), the Dutch botanist Carolus Clusius (1526–1609), the Flemish physician and botanist Rembert Dodoens (1517–1585), the Italian botanist Fabio Colonna (1567–1640) and the Nuremberg botanist Basilius Besler (1561–1629). Elsholtz also uses the *De materia medica* by the Greek physician Dioscorides and Nicolas Monardes's (1493–1588) work on American *materia medica*, among others.[11] These sources are important for Elsholtz in order to identify the plant's origin, proper nomenclature and correct description.[12] For example, returning to Elsholtz's entry on the potato, we find authorities for the correct name and description of the potato plant:

> One should not understand by this the truffles, which are *Tubera terrae* without stem and leaves, which are also called potatoes [*Tartuffeln*] by the French: but those that are a perfect plant and belong to the nightshade family. Caspar Bauhinus conveniently calls them *Solanum tuberosum esculentum*; the Eichstätt [botanical] garden [calls them] *Papas Peruanorum*; and Peter Lauremberg [calls them] earth pears [*Erdbirnen*].[13]

10 Johann Sigismund Elsholtz, *Vom Garten Bau: oder Unterricht von der Gärnerei auff das Clima der Chur-Marck Brandenburg wie auch der benachbarten Teutschen Länder gerichtet und in VI. Bücher abgefasset* [From garden construction: or lessons from gardening aimed at the climate of the Chur-Marck-Brandenburg as well as the neighbouring German states and in VI. Books written], third edition (Georg Olms, Hildesheim, 1987; first published 1684). Johann Sigismund Elsholtz, *Neu Angelegter Garten Bau oder Sonderbare Vorstellung Wie ein wolerfahrner Gärtner nicht allein die schönsten Lust- Küchen- Baum- und Blumen-Gärten Auf unserm teutschen climate füglich anzurichten, Sondern auch allerhand rare Blumen, Gewächse und Bäume zu erziehen, warten und vor zustossenden schäden zu curiren lernen kann* [Newly laid out garden construction or special presentation how a gardener with experience in gardening can not only easily create the most beautiful pleasure gardens, kitchen gardens, tree gardens and flower gardens in our German climate, but also learn to cultivate and maintain all kinds of rare flowers, plants and trees and to protect them from damage], fourth edition (Thomas Fritschen, Leipzig, 1715). Available from: Universitäts und Landesbibliothek Düsseldorf (accessed 15 December 2022).

11 On plant classification and anatomy in the seventeenth century, see Howard S. Reed, *A short history of the plant sciences* (Ronald, New York, 1942), pp. 81–94. On Monardes's work and the reception of American *materia medica* in Europe, see Daniela Bleichmar, 'Books, bodies, and fields: sixteenth-century transatlantic encounters with New World *materia medica*', in *Colonial botany: science, commerce, and politics in the early modern world* (ed. Londa Schiebinger and Claudia Swan), pp. 83–99 (University of Pennsylvania Press, Philadelphia, 2005), at pp. 84–91.

12 For a general history of botany in this period, see A. G. Morton, *History of botanical science: an account of the development of botany from ancient times to the present day* (Academic Press, London, 1981), pp. 165–220. On philosophical and methodological aspects of botanical practice in the seventeenth century, see Fabrizio Baldassarri, 'Introduction: the world of plants in premodern medical knowledge', in *Plants in 16th and 17th century: botany between medicine and science* (ed. Fabrizio Baldassarri), pp. 3–17 (De Gruyter, Berlin/Boston, 2023), at pp. 11–12. On botany in colonial contexts, see Londa Schiebinger and Claudia Swan, 'Introduction', in Schiebinger and Claudia Swan, *op. cit.* (note 11), at pp. 1–6.

13 Elsholtz, *op. cit.* (note 1), p. 31: '*Man muss aber allhier nicht verstehen die Erdmorcheln welche sind* Tubera terrae *ohn Stengel und Bletter als welche von den Welschen auch Tartuffeln genennet werden: sondern die jenigen so ein vollkommen Gewächs*

Elsholtz distinguishes the potato—called *Tartuffel* in German—from the French truffles, but he additionally notes other names by which the potato plant is known. Among these are the ones given by the botanical gardens of Eichstätt and the one given in Peter Lauremberg's 1632 work, *Apparatus plantarius: de plantis bulbosis et de plantis tuberosis*.

Elsholtz adds his own personal relationship to plants in his writing, even in works that are purely catalogues. For example, *Flora Marchica* is a mere listing of plants with an occasional short description, with the exception of the entry on the American agave plant (classified at this time as the 'American aloe'), nominated in Latin and German by Elsholtz as *Aloe aculeata* and *amerikanische Aloe*.[14] Elsholtz dedicates more than two pages to describing the origin of the American agave and his own encounter with the plant during its rare blooming in Germany, which he witnessed in 1658 while observing the plant from the months of May to September in the pleasure gardens of Stuttgart. Full of admiration, he describes the plant as 23 feet high with a total count of 12 000 flowers over the four-month period.[15] Elsholtz also writes a detailed history of the agave, including the history of its flowerings throughout Europe, in *Vom Garten Bau* and *Neu Angelegter Garten Bau*.[16] As his almost maternal tone reveals, it was his personal care for the plant in the pleasure gardens of Berlin that led him to write in *Neu Angelegter Garten Bau*: 'This aloe does not want to be kept in a cellar but in a warm room. In the winter, it does not want too much water but rather prefers to be kept completely dry.'[17]

Elsholtz's works were thus informed not only by scholarly sources, but also by his own personal experiences and observations and, it would seem, his own affection for plants. Of the 'Five-Leafed Vine from America' (*Vitis Americana quinquefolia*, *Fünfblätteriger Weinstock aus Amerika*),[18] he writes:

> When [the vine] is tied to poles, it dresses them in the shape of a pillar or pyramid; on a wall it hooks itself very firmly onto the limestone with fine little tendrils. But into a clay wall it does so much more easily, so that it can cover a whole house, which is amusing [*lustig*] to see.[19]

In the subsequent edition of his work, Elsholtz does not hesitate to include new information and tips on caring for plants that he learned through personal experience and to articulate his own feeling for the plants he cultivated. As well as the trajectories of accurate classification of the plant as a scientific object and his own passion for plants, however, Elsholtz shows here how his relationship with the plant changed its meaning.

sind und unter das geschlecht der Nachschatten gehören. Casp. Bauhinus nennet sie gar bequem Solanum tuberosum esculentum*: der Eichstätte Garten* Papas Peruanorum*, und Petrus Laurenberg l. II.* Appar. Plant. *c. 4 Erd-birnen*.'

14 Elsholtz, *op. cit.* (note 9), pp. 15–17.

15 *Ibid*.

16 Later, in 1663 in Meissen, Elsholtz would witness another blooming of the American agave plant. For an account on this flowering in Meissen, see Jacob Philip Sachs, *Observatio* XC 'Aloe Silesiaca Florescens', *Miscellanea Curiosa* **1**, 1 December 1670 (https://zs.thulb.uni-jena.de/rsc/viewer/jportal_derivate_00264712/Leopoldina_MiscellaneaCuriosa_130198382_1672_0196.tif?q=aloe) (accessed 15 December 2022).

17 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), pp. 31–32: '*Diese Aloe will in keine Keller, sondern in eine warme Stube bei geseßt sein, auch den Winter über keine Wasserung leiden, sondern ganz trocken gehalten werden*.'

18 Here and throughout I use Elsholtz's nomenclature.

19 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), p. 81: '*Wenn er an Stangen gefesselt wird, so bekleidet er dieselbe in Gestalt einer Säule oder Pyramide, an einer Mauer haftet er sich mit seinen kleinen Ranken sehr fest in den Kalk: aber in eine Lehmwand viel leichter, also dass er ein ganz haus bedecken kann, welches lustig zu sehen*.'

Losing foreignness: food, drink and medicine

Book one, chapter two, of *Vom Garten Bau* is entitled 'The creation of a perfect garden'.[20] In a section on the classification of gardens in this chapter, Elsholtz draws a chart illustrating the two aims of a garden: pleasure (*delectatio*) and utility (*utilitas*).[21] The end of pleasure is obtained in the flower garden (*der Blumen-Garten*). Utility is further divided into two categories: (a) what is suitable for nourishment; and (b) what is needed medically, which is obtained in the medicinal garden (*der Arznei-Garten*). That which is suitable for nourishment is divided into food and drink. The end goal of food is achieved with the kitchen garden (*der Küche-Garten*) and the orchard or tree garden (*der Baum-Garten*). The end goal of drink is the purpose of the vineyard or wine garden (*der Wein-Garten*). In this section, I will look at how the utility of food, drink and medicine could remove the concept of foreignness.

The passage where Elsholtz explicitly addresses how plants come to lose their foreignness is located in a section on foreign fruits (*von fremden Früchten*) in *De Diaeteticon*, where he writes:

> Exotic fruits [*fructus exotici*] or foreign fruits [*ausländische Früchte*] are thus called either because they do not grow here in the country at all, or because they do grow in our country but not in sufficient quantity, which is why they have to be brought into the country mostly from abroad. There are twelve: namely limes, lemons, bitter oranges, Chinese apples, Adam's apples, pomegranates, pistachios, pineapples, dates, olives, capers, and carob.[22]

For Elsholtz, foreign or exotic was used as a category to describe a fruit if it met one of two conditions within the environment of the German lands: (1) the fruit could not in any way be grown in the soil and climate of the German regions; or (2) the plant could be grown within the German regions, but its cultivation could not produce enough fruit to meet the dietary needs of local people, so the fruit still needed to be obtained from abroad. The removal of foreignness for a food was thus a two-step process. First, the plant needed to be acclimated to grow in a particular environment. Once that was achieved, the plant had to produce enough fruit, fast enough, to fulfil a specific function: meeting the dietary needs of those living within that particular space and environment. If it could not, then the fruit was categorized as foreign or exotic.

This was the case, for example, for bitter oranges, which proved impossible to grow in the quantities required. Elsholtz writes in *Hortus Berolinensis* that a particular building in botanical or pleasure gardens was needed to house bitter orange plants in order to protect them from the harsh conditions of winter:

> Before you leave the vegetable garden, look at a building that is at the same time extremely tasteful and extremely useful, to which I have given the name *Heizgewölbe* [heated vault] or the Greek name *Exoticophylacium*, which means in Latin, 'Guardian of Foreign Things' [*rerum peregrinarum custodiam*]. In our native language it is called the Bitter Orange

20 Elsholtz, *Vom Garten Bau*, *op. cit.* (note 10), p. 6: '*Anlegung eines vollkommenen Gartens*.'

21 *Ibid.*, p. 9.

22 Elsholtz, *op. cit.* (note 1), pp. 82–83: 'Fructus exotici *oder ausländische Früchte werden also genannt entweder weil sie hier zu Lande gar nicht wachsen: oder weil sie bei uns zwar wachsen aber nicht in genügsamer Menge, weshalb sie meist aus dem Ausland ins Land gebracht daher sie dennoch größten teils aus der Fremde ins Land geführt werden müssen. Es find ihrer aber an der Zahl zwölfte nämlich: Limonen, Zitronen, Pomeranzen, chinesische Äpfel, Adamsäpfel, Granatäpfel, Pistazien, Pineen, Datteln, Oliven, Kapern, Johannisbrot*.'

> House [*Pomeranzen-Hauß*] as well as the Orange Tree House [*Aurantiorum domus*] because such facilities were built primarily to store these apples. But now, to protect against the cold of winter, lemon trees, lime trees, pomegranate trees, and myrtle trees are stored here as well as all plants that cannot bear the winter cold.[23]

The bitter orange house in the pleasure gardens of Berlin protected bitter oranges, which Elsholtz lists in his later *De Diaeteticon* as a foreign fruit, as well as other kinds of fruit trees categorized as such—lime, lemon and pomegranate trees—so that they could grow there at all, given the climate. None of these fruit trees could tolerate the winter cold and they all needed special care. It was due to these constraints that Elsholtz categorizes these fruit trees as foreign.

In his *Hortus Berolinensis*, Elsholtz already points out the particular challenge of climate, generally speaking, in growing a garden in Berlin, and climate was all the more obstacle in growing plants from warmer climates such as Mexico and Peru. The pleasure gardens of Berlin were established at a much later date than other gardens in central Europe, indicating that the successful growing and propagation of plants in Berlin depended on overcoming political challenges as well as meteorological ones. Elsholtz explains:

> [The reason these gardens were not established earlier is] [p]artly because the warlike tribes have devoted themselves more to arms, partly because northern horticulture is hampered not so much by the harder quality of the soil as by the harsher climate. Nevertheless, people have been found who have overcome all sorts of difficulties and finally planted both numerous and very exquisite gardens in these areas.[24]

The pleasure gardens of Berlin were not established until the end of the Thirty Years' War. Political reasons aside, Elsholtz stresses that it was not the soil of Germany but its climate—especially in the north—that made it particularly difficult to cultivate a garden. In fact, growing a garden in the northern climate was the central thread running throughout Elsholtz's *Vom Garten Bau* and shaped his descriptions of how to care and propagate plants. This is reflected in the long title of the book, which continues: '… On how to achieve a pleasure, kitchen, tree, and flower garden in our German climate.'[25]

For Elsholtz, climate meant the weather, temperature and seasonal effects upon plants. In order to overcome the challenges of Berlin's climate, Elsholtz shares specific instructions—based on what he himself learned along the way by tending and propagating plants in Berlin—on how to care for certain plants over the winter months and which plants should be planted near one another to mitigate the negative influences of climate.[26] An example is the chocolate tree, which needs to be strategically placed:

23 Elsholtz, *op. cit.* (note 7), pp. 27–28: '*Eleva igitur oculos, et prius, quam Olitorio exeas, intuere politissimum juxta et utilissimum aedificium, cui Hypocaustis hortensis, aut Graecum nomen* Exoticophylacij*, quod Latine rerum peregrinarum custodiam sonat, imposui. Vernacula lingua das* Pomeranzen-Hauß*, quasi Aurantiorum domus dicitur: quonian servandis istis malis praesertim et primitus strui solebant ejusmodi machinae. Nunc vero eò contra hyemis alogorem conduntur et Malus citria, et Limonia, et Punica, Myrti, et ex herbis quotquot hybernum frigus ferre nequeunt.*'

24 *Ibid.*, p. 10: '*Partim quod armis magis deditae bellicosae gentes semper fuerint: partim quod viridariorum cultui septentrionalium non tam officiat durior natura soli, quam coeli temperies inclementior. Inventi nihilo minus fuerunt, qui superatis quibuscunque difficultatibus, tandem his quoque in oris hortos instruerent et plurimos, et satis exquisitos*.' For a history of botany in Berlin, Germany, see Claus Schnarrenberger and Hildemar Scholz (eds), *Geschichte der Botanik in Berlin* (Colloquium, Berlin, 1990).

25 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), title: '*Wie ein wolerfahrner Gärtner nicht allein die schönsten Lust-Küchen- Baum- und Blumen-Gärten Auf unserm teutschen climate füglich anzurichten*.'

26 On the influence of weather and other outside forces in the history of botany, see M. Möbius, *Geschichte der Botanik* (Gustav Fischer, Jena, 1937), pp. 291–301.

> In the Mexican region grows a tree similar in size to a citrus tree, and whose leaves are also similar to the leaves of a citrus tree, although they are bigger: the fruit is, however, similar to our almonds. … The tree cannot tolerate the sun's heat but wilts from it. Therefore, it must be planted near another tree, by the name of *Altyna*, so that it can receive sufficient shade for protection.[27]

One might have expected Elsholtz to note the difficulties of the chocolate tree facing cold and frost, given that the tree originates in Mexico. Instead, he tells us that the tree cannot completely tolerate the heat of the Sun and is best grown underneath another tree for protection. Shade prevents its leaves from wilting.

Planted near the *Altyna*, then, the chocolate tree could overcome the challenges of climate in Berlin. In other words, the acclimation of the chocolate tree depended on its particular location within the space of the pleasure gardens. It was in that space that the tree produced fruit—and enough fruit in a short enough time for it to be absent from Elsholtz's list of foreign and exotic fruits. In fact, the fruit from the chocolate tree was familiar to his readers, being prepared as a drink similar to the drink used by the indigenous in Mexico, though with one significant difference:

> Its almond-shaped fruit is called *Cacao* after the proper pronunciation of Cacò in the work of José Acosta and Carl Clusius. Girolamo Benzoni calls it *Cacavate* and the drink made from it *Chocolate*, which enjoys a great reputation throughout the Mexican territory. They dry these cacaos in earthen pots at the fire, afterwards they crush or grind them small, mix some of such powder in a bowl with water, add a little Brazilian pepper, and drink it just so. The taste of this drink was so bitterly disgusting that [Benzoni] could not drink it the first year. Finally, however, partly for lack of wine, he like others had to get used to it.
>
> For although the fruit cacao, according to Benzoni's testimony, gives the Mexicans a cooling drink, our chocolate, because of the added spices, does not cool in any way, but warms. Therefore, it does not serve complexions of melancholic and aged people as a general comfort which can extend their life, especially the vital spirits, and strengthen their nature: on the contrary, it can heal and abate fluids and other cold moistures.[28]

27 Elsholtz, *op. cit.* (note 1), p. 329: '*In der Mexikanischen Landschaft wächst ein Baum, in der grosse eines Zitronen-baum, seine Blättern gleichen auch desselben Blättern nur dass sie größer sind: die Frucht aber ist unser Mandeln ähnlich … Er kann die Hitze der Sonne nicht vertragen sondern verwelkt davon. Deswegen muss er neben einem anderem Baum Altyna genannt gepflanzt werden, damit dasselbe Schatten ihn beschütze*.'

28 Elsholtz, *op. cit.* (note 1), pp. 329–330: '*Seine Mandel-förmige Früchte heissen Cacao, nach der rechtigen Aussprach von Cacò beim Jose Acosta und Carl Clusius. Hieron. Benzo nennet sie Cacavate und das daraus bereitete Getränk Chocolate welches durch das Ganze mexikanischen Gebiet in grosse Beruf ist. Sie dürren aber diese Cacaos in irdenen Töpfen am Feuer, stossen oder mahlen sie hernach klein vermischen etwas von solchen Pulver in einer Schale mit Wasser tun auch wohl ein wenig brasilianisches Pfeffer hinzu und trinken es also. Der Geschmack dieses Getränks ist bitterlich so widerlich gewesen dass er ihn das erste Jahr nicht hat trinken können. Endlich doch auch mangels Wein sich gleich anderen daran gewöhnen müssen. Denn obwohl die Frucht Cacao nach Benzonis Zeugnis denen Mexikanern ein kühlendes Getränk gibt: so kühlet doch unsere Schokolade wegen zugeseztes Gewürzes keines Weges sondern sie wärmet. Dienet also keinen Complexionen Melancholischen und Alterhaften Leuten als ein allgemein Komfort welches ihre Dauer besonders die Lebensgeister vermehren, die Natur stärken: hingegen die Flüsse und andere kälten Feuchtigkeiten verheilen und verzehren kann*.' On Europeans learning the taste of chocolate, see Marcy Norton, 'Conquests of chocolate', *Mag. Hist.: Atlantic World* **18**, 14–17 (2004). Marcy Norton, *Sacred gifts, profane pleasures: a history of tobacco and chocolate in the Atlantic world* (Cornell University Press, Ithaca/London, 2008). Marcy Norton, 'Tasting empire: chocolate and the European internalization of Mesoamerican aesthetics', *Am. Hist. Rev.* **111**, 660–690 (2006). José Pardo-Tomás, 'Natural knowledge and medical remedies in the book of secrets', in *A passion for plants: materia medica and botany in scientific networks from the 16th to 18th centuries* (ed. Sabine Anagnostou, Florike Egmond and Christoph Friedrich), pp. 93–108 (Wissenschaftliche Verlagsgesellschaft, Stuttgart, 2011), at p. 105. More broadly on the history of chocolate, see Sophie and Michael Coe, *The true history of chocolate* (Thames and Hudson, London, 2013).

Climate seemed to play a role—at least indirectly—in changing the healing properties of the drink prepared from this fruit in Germany compared to Mexico. But before Elsholtz explains those changed healing properties, he offers some history on the plant. He justifies the proper pronunciation of the chocolate tree's fruit by referring to two sixteenth-century figures, the Netherlandish botanist Carl Clusius and the Spanish Jesuit missionary José de Acosta. In his *Natural and moral history of the Indies* (*Historia natural y moral de las Indias*), Acosta had described the beverage made from cacao and noted that those not accustomed to the taste often found it 'nauseating'.[29] Acosta also mentions medicinal purposes: 'They often put spices in it and much chile; they also make it in the form of a paste, and say that it is good for the chest and stomach and against catarrh. No matter what its uses, those who have not been brought up to it do not much care for it.'[30]

Elsholtz also explains that the drink is an acquired taste, but he does so by citing Girolamo Benzoni (*ca* 1519–1572).[31] An Italian merchant who had spent 15 years in the Americas, Benzoni published his *History of the New World* (*Historia del Mondo Nuovo*) in 1565. From Benzoni, Elsholtz takes a description of how the chocolate drink is prepared in Mexico, emphasizing the bitter taste to which Benzoni needed to become accustomed. He contrasts the personal experience of Benzoni with the drink as it is prepared in Germany. The properties of the drink made from the same fruit in Mexico have changed in Germany, resulting in a different categorization of the chocolate drink. The change occurred when different spices were added, ones that could be grown in Germany. Acosta states that the drink is enjoyed in several forms and at various temperatures in Mexico, but in Elsholtz's retelling the drink in Mexico is a cooled drink, suitable for those of a warm complexion.[32]

Elsholtz contrasts the cooled drink in Mexico with how the drink is prepared in Germany. First, its physical preparation differed, using different spices. Second, the particular spices added to the mixture were regarded as having heating properties and thus different effects on the body from the cooling drink in Mexico. The fact that the drink could be produced in Germany in sufficient quantities removed the chocolate plant from the category of foreign or exotic; at the same time, the new function of the drink meant it was prescribed for a different type of human temperament than had been the case in Mexico. By locating the mutable healing properties of chocolate within the Hippocratic–Galenic medicalization of plants, Elsholtz brings together themes relating to the cultivation of gardens and those relating to self-care, diet and hygiene.[33] The project of self-care and becoming one's own doctor would become particularly important in eighteenth-century hygiene, but it is presaged throughout the mid sixteenth to the eighteenth centuries

29 See José de Acosta, *Historia natural y moral de las Indias* (Hispano-Americana de Publicaciones, Seville, 1987; first published 1590), pp. 241–243.

30 José de Acosta, *Natural and moral history of the Indies* (ed. Jane E. Mangan, trans. Frances López-Morillas), p. 210 (Duke University Press, Durham, NC, 2002).

31 Angela Enders and Elisabeth Fraser, 'An Italian in the New World: Girolamo Benzoni's *Historia del Mondo Nuovo*', *Dispositio* **17**, 21–35 (1992), at p. 27.

32 Acosta, *op. cit.* (note 29), p. 242.

33 On the incorporation of American *materia medica* in the Galenic system, see Federica Rotelli, 'The accommodation of New World plants in early modern pharmacology', in Baldassarri, *op. cit.* (note 12), pp. 175–178. See also Anthony Grafton, *New worlds, ancient texts: the power of tradition and the shock of discovery* (The Belknap Press of Harvard University Press, Cambridge, MA, 1992), pp. 163–167.

in such books as Elsholtz's *De Diaeteticon*, written to offer instructions on what to eat and how to care for one's hygiene.[34]

The chocolate tree is not the only plant that illustrates this point. Elsholtz also discusses maize or corn (*türkische Weißen*), which, like chocolate, came from the warm climate of Mexico. In order to grow successfully in Berlin, he notes, the plant requires sun and must be guarded from the harsh conditions of frost:

> Turkish or rather Indian corn, because it first arrived in Europe not from Turkey but from the northern part of America, and indeed only after the discovery of that New World, which is why the old writers do not report it. The Indians call it *Mehiz* or *Mays*. It is a very fertile plant, so that in India one grain grows into a thousand and more. Because it was brought to us from warm countries, it requires a good and sunny soil and does not like frost.[35]

In this case, the original warm climate of the plant required that the plant be grown in a sunny spot in the gardens. Like the potato, corn was a new plant, not found in the old herbals and cookbooks, though, unlike the cases of the potato and of chocolate, the drink made from corn, *atole*, did not become incorporated into the regular diet in Germany. With reference to Caspar Bauhin, Elsholtz notes how corn is used in the Americas both by the Amerindians and by physicians:

> The grains are made into flour by the Indians, and bread is baked from it: here in this country, it is not considered very important, but sometimes the flour is prepared with milk and butter to make a dessert, which is pleasant and sweetish in taste, but not without a tough and constipating sliminess. The American *medici* boil it with water to make a drink for the sick which they call *atole*.[36]

This medical function, so important in the Americas, did not transfer to Germany; nevertheless, judging by Elsholtz's account, the plant did become familiar there and was sometimes used for food.

Thus far we have seen how the acclimation of a plant to a new environment is a first factor that can lead to the removal of foreignness. Such acclimation may then influence the relations between the plant itself, the people in contact with it and the environment that both inhabit. That is, the relationship between the person and the object changes depending upon the meaning the plant has attained in its function as food, drink or medicine. While the origin of a plant is important for botany (identification and proper nomenclature) and for horticulture (understanding how best to grow it outside its native climate), it is not the ontology but the function of the plant that determines whether it takes on the meaning of foreignness or familiarity. As such, the meaning of plants at

34 See, for example, Steven Shapin, 'How to eat like a gentleman: dietetics and ethics in early modern England', in *Right living: an Anglo-American tradition of self-help medicine and hygiene* (ed. Charles E. Rosenberg), pp. 21–58 (Johns Hopkins University Press, Baltimore, 2003), at p. 21.

35 Elsholtz, *op. cit.* (note 1), p. 15: '*Türkische oder vielmehr indianisch Weißen, weil er nicht aus der Türkei sondern aus dem Mitternächtigen theil Americas anfänglich in Europe ankommen, und zwar allererst nach Erfindung selbiger Neuen Welt, daher die alten Schreiber dessen keine Meldung tun. Die Indianer nennen ihn Mehiz oder Mays. Es ist ein sehr fruchtbar Gewächs, also dass in Indien aus einem Korn tausend und drüber wachsen. Weil er also aus warmen Ländern zu uns gebracht worden, erfordert er ein gut und der sonnen wohl gelegenes Erdreich, mag auch nicht frost.*'

36 Elsholtz, *op. cit.* (note 1), p. 15: '*Die Körner werden von den Indianern zu Mehl gemacht, und Brot daraus gebacken: hier zu lande achtet man des nicht groß, jedoch wird biß weilen das Mehl mit Milch und Butter zu einem gemäß zubereitet, welches zwar von Geschmack angenehm, und süßlich, aber nicht ohne zähe und stopfende Schleimigkeit ist. Die amerikanische Medici kochen mit Wasser eine Tisane daraus für die kranken welche sie* Atole *nennen*.' Pardo-Tomás, *op. cit.* (note 28), p. 106.

the pleasure gardens of Berlin is embedded in a much larger scientific and social space within which they came to play particular roles.[37]

Rare and foreign: plants for pleasure

The meaning of a plant for the purpose of utility depended upon its function in its environment—changing the plant's use from a luxury to a staple food, for example. This kind of change was possible for plants grown for pleasure. Whereas Elsholtz speaks of the 'foreignness' of plants grown for utility, using the term *fremd*, he uses the term rare (*rar*) to describe plants grown for pleasure. In this section, I look at examples of plants grown for pleasure and reconstruct the criteria of rarity and foreignness that Elsholtz assigned to them.

As we have already seen, in *Vom Garten Bau* Elsholtz identified the flower garden as fulfilling the aim of pleasure (*delectatio*) within a garden. But the notion of pleasure was a broad one for Elsholtz, and encompassed more than just an aesthetic quality. This is seen in *Hortus Berolinensis*, where Elsholtz explains the five varieties of gardens:

> As the character of [human beings] differs and all do not have one and the same goal, so different kinds of gardens are set forth according to the different intentions of the lords. … The first, of course, are the ordinary gardens, which are laid out only for the sake of utility, the second are the medicinal ones, the third are the mixed ones, in which not only plants suitable for medicinal purposes are grown, but also any other, especially the rarer ones, for the sake of admiration and contemplation of nature. The fourth are the artistic ones, in which there is nothing useful for food or for medicines, nor is the power of nature contemplated, but only beautiful ornaments. And these, of course, are planted with flowers and similar herbs and shrubs, whose appearance or colour or smell has some charm, or which are used for garlands and wreaths. Finally, the fifth are the magnificent gardens, in which are lavish buildings and refreshing water features and an abundance of exotic trees and herbs and anything else that requires large expenditures. And these are, of course, in a simple form, the different types of gardens. The following explanations will show that these individual elements in our garden are connected and merged into one.[38]

That there are five varieties of gardens Elsholtz takes from Conrad Gessner's 1561 work *De hortis germaniae*. A Swiss botanist, Gessner (1516–1565) had discovered more than 200 new plants during his travels, and his work *De hortis germaniae* offers a catalogue of these plants along with a description of them and how to care for them. It is perhaps significant that Elsholtz chooses to reference this work by Gessner, as it strongly focuses on the plants

37 Marianne Klemun, 'Wissenswandel und botanische Garten: Eine historische Reflexion', in *Der Garten als Wissensraum. Eine Reise zu Gärten der botanischen Sammlungen in Europa* (ed. Karin Standler), pp. 11–14 (Institut für Städtebau, Vienna, 2013).

38 Elsholtz, *op. cit.* (note 7), p. 22: '*Quemadmodum diversa hominum mens est, nec voto vivitur uno: ita pro dominorum diversa intentione varia instruuntur hortorum genera: quae tamen varietas quintuplici potissimum differentia absolvitor, quam libello de Hortis Germaniae ab altero illo Plinio Conrado Gesnero propositam invenio. Alij quippe vulgares sunt, utilitatis tantum gratia consiti: alij medicinales: alij varij, in quibus non solum plantae remedijs nobiles, sed aliae etiam quaevis rariores praesertim coluntur, propter admirationem et contemplationem naturae. Alij elegantes, in quibus nulla utilitas ad cibum aut remedia, neque naturae vis spectator, sed ornatus tantum: et isti quidem floribus conseruntur, similibusque herbis ac fructibus, quorum aliqua in forma aut colore aut odore gratia, aut ad serta et coronas usus est. Alij tandem magnifici, in quibus aedificia sumtuosa, et aquarium spectacular jucunda, et arborum herbarumque exoticarum copia, et reliqua quae magnas postulant expensas. Atque hae quidem simplices hortorum differentiae sunt, quas in nostro singulas simul junctas, et in unum combinatas esse, sequential ostendent.*'

grown with particular passion in German-speaking lands. Elsholtz asserts that the pleasure gardens of Berlin combine all the varieties of gardens found throughout Germany into one, thus arguing for his own garden's superiority.

Setting aside the taxonomy of gardens in general, I wish to emphasize here the different varieties of gardens that fall under the more general aim of pleasure. A garden, Elsholtz explains, can have the trait of aesthetic beauty. It will contain plants that are appreciated simply for their pretty blooms, such as the cardinal flower and the bell flower.[39] Here the pleasure is afforded by a plant's appearance, smell or colour.[40] But pleasure can also be tied to something deeper in meaning: some gardens are grown with the aim of admiration and the contemplation of nature. Elsholtz does not expand on what makes a garden instil admiration in its visitors, but it was clearly something that took one beyond the mere five senses. Still other gardens are grown with the aim of impressing by means of their magnificent statues, buildings and exotic plants. Here Elsholtz connects the presence of exotic trees and herbs with the energy required to grow and maintain them, energy that entailed 'large expenditures'. Whereas Elsholtz's title is strictly limited to how to grow a garden in the German climate in *Vom Garten Bau*, in the later edition, *Neu Angelegter Garten Bau*, the following subtitle is added: 'but also learn to cultivate and maintain all kinds of rare flowers, plants, and trees and to protect them from damage'.[41]

The cardinal flower (*Trachelium Americanum flore rubro*, *Cardinal-Blume*) is an example of a flower grown for its appearance and beautiful colour. In the earlier *Vom Garten Bau*, Elsholtz writes:

> This is also a recent newcomer from America, but is now quite accustomed to the European climate. Its greatest ornament consists in the deep-red flowers which are in no way inferior in colour to the pomegranate flower … It requires a sunny place with rich and moist soil.[42]

After noting its acclimation to the European climate, Elsholtz quickly turns to the plant's beauty. In the later *Neu Angelegter Garten Bau*, however, we no longer find any reference to the physical beauty of the flower. Elsholtz focuses instead on the care of the plant in the winter:

> This is also a newcomer from America, but now quite accustomed to the European climate … They are usually kept in containers and brought to a warm, airy place in winter. They can also be left outdoors during the winter, as long as they are well covered, and in this way they grow and bloom best.[43]

No description of the cardinal flower as rare or foreign is to be found in either edition of the book. In both, Elsholtz states instead that the flower has rapidly adjusted to the European

39 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), pp. 47–48; Elsholtz, *op. cit.* (note 1), pp. 253, 277, 396.

40 On collections of herbaria in the Leiden *Hortus botanicus*, see Aleida Offerhaus, Anastasia Stefanaki and Tinde van Andel, 'Not just a garden of simples: arranging the growing floristic diversity in the Leiden Botanical Garden (1594–1740)', in Baldassarri, *op. cit.* (note 12), pp. 107–117.

41 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), title: '*Sondern auch allerhand rare Blumen, Gewächse und Bäume zu erziehen, warten und vor zustossenden schäden zu curiren lernen kann*.'

42 Elsholtz, *Vom Garten Bau*, *op. cit.* (note 10), p. 75: '*Dieses ist auch ein newer Einkommling aus America nunmehr aber des Europaeischen Climats zimlich gewohnet. Ihre größte Zier bestehet in den hochrohten Blumen welche an der Farbe der Granatenblüht nichts nachgehen. … Erfodert dabei einen sonnigten ort fett und feuchtes Erdreich*.'

43 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), pp. 47–48: '*Diese ist auch ein neuer einkommling aus Amerika, nunmehr aber des europäischen Klimats ziemlich gewohnt. … Man erhält sie meistens in Geschirren, und bringet sie des Winters an einen warmen luftigen Ort. Man kann sie auch im Land den Winter über stehen lassen, wann man sie nur wohl zudeckt, und auf solche Art wachsen und blühen sie am besten*.'

climate. It is perhaps because of this quick acclimation that Elsholtz leaves out any reference to the admiration of the flower's rich colour in the later edition; perhaps the plant had acclimated so well to its new environment, and Elsholtz himself was so familiar with caring for it over the winters, that he regarded its physical appearance and beauty as a common sight, not worthy of comment.

Quick acclimation of a plant enabled it to be easily grown, without much human labour or heat-giving energy for the glasshouse. This is seen in the example of the spider-wort (*Phalangium magno flore*, *Spinnen-Kraut*): 'This plant was first brought to Europe in this century from the American island of Virginia, but now it is so accustomed to our air and soil that it grows there almost without any labour and is easily propagated by its roots.'[44] The ecological relations between the plant and those who grow it changed the meaning of the plant: when the spider-wort arrived, it was rare and exotic, but now, proving so easily grown in its new environment, those qualities have disappeared.

This was not the case for certain types of rosemary. In his entry on yellow rosemary (*Vergüldter Rosmarin*) in *Neu Angelegter Garten Bau*, Elsholtz explains:

> This is a species whose leaves are flecked with yellow: otherwise, however, it is similar to the common rosemary and requires the same care. There is also a species with silvered leaves from England, but it is very rare and not very hardy in these countries. And I must take this opportunity to remind you that today, just as people are very fond of colourful clothes, they are also very fond of striped plants: and since people were once amused by colourful [*bunt*] flowers, the leaves themselves must also be speckled [*gefleckt*].[45]

The rosemary from England is categorized as rare. Its rarity arises from the colour of its leaves. Silver leaves are rare for a rosemary plant in general, but especially so in the Germanic lands. In this case, rarity is a term applied by Elsholtz to a certain appearance of a plant: the colour of its leaves. This is also how he uses the term to describe a particular colour of tulips. Sky-blue tulips (*Himmel-Blaue Tulipen*) are so rare that not even the famous and well-travelled botanists Conrad Gessner and Carl Clusius have ever seen any.[46]

Rare thus described a particular quality, such as a colour. Foreign, on the other hand, was a term Elsholtz applied in the German nomenclature of the plant. Throughout his works there are several plants that Elsholtz specifically labels as foreign (*fremd*). Among these are the 'foreign Rhine flower' (*Fremde Rhein-Blume*), 'foreign marjoram' (*Fremder Majoran*), 'foreign stonecrop' (*Sedum/Fremde Hauswurß*), 'foreign bedstraw' (*Fremdes Glied-Kraut*) and 'foreign cowslip' (*Fremde Schlüssel-Blume*).[47] As to the specific reason why each of these plants is categorized as foreign, Elsholtz unfortunately provides no explicit information. In fact, in several entries he does not even leave behind any clues. On the foreign cowslip, for instance, Elsholtz writes:

44 *Ibid.*, p. 66: '*Welches Gewächs allererst in diesem seculo aus der amerikanischen Insel Virginia in Europam übergebracht worden: nunmehr aber ist es unter Luft und Bodens so gewohnt dass es darin fast ohne Arbeit fortwächst und durch seine wurzeln sich leicht vermehren lässt.*'

45 *Ibid.*, p. 45: '*Ist eine Art dessen Blätter mit gelben Flecken besprenget sind: im übrigen aber ist er dem gemeinen Rosmarin gleich und erfordert dieselbige Wartung. So ist auch eine Art mit verstilberten Blättern aus Engeland aber sehr rar und in diesen Landen nicht wol daurhafftig. Und muss ich bei dieser Gelegenheit ins gemein errinnern, dass man heutiges Tages gleich wie der bunten kleider also auch der streiffigten Gewächse sich sehr befleissige: und da man ehermals mit bunten Blumen vergnüget war, so mussen auch die Blätter selbst gefleket sein.*'

46 *Ibid.*, p. 96.

47 See Elsholtz, *Vom Garten Bau*, *op. cit.* (note 10), pp. 65, 68, 73–76.

> They received their German name [*Schlüsselblume*, lit. 'key-flower'] because they bloom early and are among the first to open the season of flowers. By the middle of May the flowering is usually over and the leaves finally die, but the root strengthens in the soil over the winter and sprouts again towards the following spring. So these foreign (*ausländisch*) cowslips last for several years and can be propagated by splitting the roots.[48]

Here there is no difficulty in getting the plant acclimated or propagating it. Cowslip is even known for opening up the season of the blooming of flowers, which is how it received its name in German. To whom exactly the flower was known, Elsholtz does not say. Again, he leaves no indication as to why he then categorizes the plant as foreign through its German common name and describes it as foreign (*ausländisch*).

For other plants Elsholtz does leave some clues. On the foreign marjoram (*Fremder Majoran*), he states that he is describing three kinds of marjoram that are 'uncommonly [*ungemein*] well-loved in the pleasure garden'.[49] Each of these three kinds stands out for a particular reason: one for the colour of its leaves, another for the shape of its leaves and the third for the taste of its leaves (though, he adds, there is no difference in smell).[50] Writing about the foreign stonecrop (*Fremde Hauswurß*), Elsholtz seems to concentrate on the plant's appearance: 'This is a strange-looking plant and I doubt that it has yet been properly described or painted by anyone.'[51] Though Elsholtz offers no further direct comment on this lack of botanical description or illustration, one could speculate that it was the reason why he categorizes the plant as foreign. On the foreign Rhine flower, finally, Elsholtz compares the colour and appearance of the bloom with a better-known variety of the same species: 'It is a subtle plant with delicate little yellow flowers resembling the well-known Rhine flowers.'[52] Again, Elsholtz does not say why he categorizes the flower as foreign.

Although Elsholtz is not explicit on his criteria for assigning the label 'foreign', one point is clear: foreignness is not synonymous with a plant's originating abroad. This is not to say, of course, that knowledge of the origin of the plant was unnecessary; such knowledge was needed in order to identify the scientific and botanic object correctly.

That foreignness is not a matter of origins alone can be seen in one more example, the cudweed. Elsholtz distinguishes the American cudweed (*Gnaphalium latifolium Americanum*, *americanisch Ruhrkraut*) from the common cudweed as follows: 'This [plant], which came to us from the Indian countries, is covered with white wool, like our common cudweed, but a noticeable difference is its large leaves and flowers.'[53] He does not, however, explicitly classify the American cudweed as 'foreign'.

48 *Ibid.*, pp. 75–76: '*Diese haben den Deutschen Namen bekommen weil sie zeitig blühen und unter den ersten sind welche die Jahrzeit der Blumen gleichsam auffschliessen. Auff den halben Mai ist die Blüht gemeindlich vergangen die Blätter vergehen endlich auch die Wurzel aber stärket sich in der Erde den Winter über und treibet gegen den folgenden Frühling wieder an. Also dauern diese ausländische Schlüssel-Blumen etliche Jahr und kann man sie durch Zerreissung der Wurzeln indessen fortpflanzen*.'

49 *Ibid.*, p. 68.

50 *Ibid*.

51 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), p. 73: '*Dieses ist ein von aussehen seltsam Gewächs und zweiffele ich ob es bisher von jemand recht beschreiben oder gemahlt worden*.'

52 Elsholtz, *Vom Garten Bau*, *op. cit.* (note 10), p. 65: '*Ist ein subtiles Gewächs mit zierlichen gelben Blümlein, den bekannten Rhein-Blumen gleichend davon*.'

53 Elsholtz, *Neu Angelegter Garten Bau*, *op. cit.* (note 10), p. 41: '*Dieses, so aus den indianischen Ländern zu uns kommet, ist mit weißer Wolle überzogen, wie unser gemein Rührkraut, ist aber im übrigen an grösse Blättern und Blumen ein merklicher Unterschied*.'

Once again, even in the case of flowers grown for pleasure, the category of foreign was not applied on the basis of the ontology of the plant alone. It seems also to have been dependent upon the relations between the plant, Elsholtz and their shared environment of the garden, even if Elsholtz is not as clear on the criteria by which foreignness is removed from a plant for pleasure as he is in the case of plants grown for utility.

Conclusion

For Elsholtz, plants grown for utility of food, drink and medicine lose their foreignness under two conditions: when the plant can be grown in the climate of the German lands and when it produces sufficient fruit used as food (*De Diaeteticon*). Foreignness is erased from plants for utility within a particular space—a space that was not limited strictly to the garden, with its practices of acclimation, but included a more abstract space encompassing the processes by which the plant's material was transported and by which the palates of those who ate the plant changed in response to their actual experiences with the plant or its produce. In *De Diateticon*, the meaning of plants as a luxury or a staple food (such as the potato plant or the *atole* drink), as a healing substance for hot or cool temperaments (such as the chocolate drink) and so on changed in line with the plants' changing functions within a rapidly globalizing environment.

The case of plants grown for pleasure is not as clear in Elsholtz's works *Vom Garten Bau* and *Neu Angelegter Garten Bau*. Rarity rather than foreignness as such is a criterion that Elsholtz applies to the particular colours and qualities of plants, and it receives more attention in the later *Neu Angelegter Garten Bau*. But one thing is certain: for Elsholtz, the category of foreignness was not dependent upon a plant originating outside Germany. It was a category on the level of functionality and familiarity, not of ontology.

Data accessibility

This article has no additional data.

Declaration of AI use

We have not used AI-assisted technologies in creating this article.

Acknowledgements

The research for this paper was made possible by funding of the Leopoldina Freundeskreis.

The topic of this paper is part of the larger research project, 'German scientists, their *Observationes*, and ties to the Latin Americas in the seventeenth century', at the Max Planck Institute for the History of Science and the Zentrum für Wissenschaftsforschung (Centre for Scientific Research) at the National Academy of Sciences Leopoldina. I would like to especially thank Kate Sturge and the anonymous reviewers for their helpful comments and suggestions.