

Research Article

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From Flowers to Plants: Plant-Thinking in Nineteenth-Century Danish Flower Painting

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Abstract: In the nineteenth century, flower painters in Denmark shifted from depicting arranged, cut flowers to showing plants within their ecosystems. This article explores this shift by examining four paintings by the artists Christine Løvmand and Anthonore Christensen. According to Michael Marder and Emanuele Coccia, important philosophers in critical plant studies, plants have been overlooked as world creators. Coccia highlights the nineteenth century as a particularly low point, in this regard, but seeks exceptions and points to significant nineteenth-century articulations of how plants move in, sense, and create their environment. An investigation of Danish art and botany reveals similar articulations, as several significant artists made growing rather than cut plants the theme of some of their paintings and botanists explored the wild flora and the agency of plants. This nineteenth-century shift in focus from flowers to plants disseminates notions of plants that can inspire and help us reorient our relationship with the natural world.

Keywords: nineteenth-century, botany, art history, plant-thinking, environmental humanities, flower painting

1 Retracing Plant-Thinking

The current climate emergency and biodiversity crisis highlight the urgent need to rethink our relationship with the natural world. In this context, many artists, philosophers, anthropologists, and popular science writers are turning to the study of plant life as a crucial element of this reorientation (Aloi & Marder 2023; Myers, 2015, p. 40). Thus, over the past two decades, the development of critical plant studies has given rise to reflections on our lives as conditioned by vegetal life. Among the philosophers of this turn, Michael Marder has emerged as a significant contributor to vegetal metaphysics and plant ethics. In *Plant-thinking: A philosophy of vegetal life*, he examines plants as complex, interactive beings who demand our attention and consideration, despite traditionally being viewed as passive, nonmoving, and noncommunicative entities. According to Marder, “plants are capable of accessing, influencing, and being influenced by a world,” and they should be thought of “in the environment, from which they are not really separate” (2013, pp. 8, 181).

Looking into the way plants have been treated in the history of Western thought, Marder argues that they have been relegated to “the margin of the margin, the zone of absolute obscurity,” particularly since early modernity. To give prominence to vegetal life and “to inquire into the being of plants, into their unique

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purchase on life,” he retraces a plant-thinking that emphasizes plants as capable beings at the same time respecting their otherness allowing them “to flourish on the edge or at the limit of phenomenality, of visibility” (2013, pp. 2, 9, 180). Though he also scrutinizes uncritical assumptions about plants, his focus is “the thinking of plants” in twentieth- and twenty-first-century philosophy, and he suggests a method of “mining” for such attention rather than merely criticizing any author or mainstream current. Staying solely with critique, he warns, risks replicating “past failures by *a priori* thematizing and objectifying what invites the inquiry” (2013, pp. 3, 5–6).

With his concept of “plant-thinking,” Marder, alongside others, has been influential for Italian philosopher Emanuele Coccia, who reflects on plants in *The life of plants: A metaphysics of mixture*. Like Marder, Coccia points to our neglect of thinking with plants and seeks expressions of alternatives. He notes that the nineteenth century was a time when “philosophy stopped contemplating nature” and expelled “any trace belonging to the natural from the domain of knowledge” (2018, p. 23). However, similar to Marder, Coccia looks for alternatives to articulate how plants interact with and create their world, finding expressions of this also in the nineteenth century. Dividing his book into three parts, he explores how plants, through their leaves, roots, and flowers, “transform everything they touch into life, [and how] they make out of matter, air, and sunlight what, for the rest of the living, will be a space of habitation, a world” (2018, p. 18).

This turn towards thinking with plants can provide ways to explore how artists in the nineteenth century articulate plants’ complex and interactive existence in the world. Though the nineteenth century in some respects was a low point in acknowledging plant life, there were significant botanists, who are referred to today as pioneering the field. For example, English naturalist Charles Darwin and French botanist René Louiche Desfontaines, whose experiments are repeated today (Morell). What has not been looked at is the way artists contributed to an acknowledgment of plant life along with botanists. By omitting humans and focusing solely on plants, Christine Løvmand and Anthonore Christensen highlight the value of non-human life and create space for approaching plants with curiosity. The two artists are important figures in a movement in Danish art towards acknowledging plants. Only little, however, has been written about the two artists, and this movement has never been acknowledged. Similarly, the directions suggested in critical plant studies have only to a limited extent inspired art historians to examine historical artworks. Thus, much needs to be explored in both Danish art history and in art history in general in regard to our history of depicting and thinking with plants.

To think with plants and acknowledge them on their own terms, however, is challenging, as we, as humans, are bound to sense and communicate the world as humans. Though humans are absent from the four paintings that we will examine, the paintings are more about our entanglement with the natural world than the natural world. Entanglement here implies that everything depends on something else. The paintings are objects created by humans for humans, and it is an inherently human act to use oil on canvas to depict plant life. Rather than showing us plant life, the artists thus put forth their stance on the plant-human entanglement when they present plants. By viewing the paintings as expressions of this entanglement, we can reflect on how we perceive and communicate the natural world. These historical artworks are therefore significant as they may help us reorient ourselves towards plants and explore new kinds of relationships between human and non-human life forms.

When plants are studied in this way, flowers are present but not the central focus. Retracing the Danish tradition of flower painting for its portrayal of plants means taking a fresh look at these paintings to emphasize overlooked aspects of them. Danish flower painting has not been examined in this manner before. The few monographs and exhibition catalogues on the works of Danish flower painters do not focus on plants as living and rooted entities. Instead, scholars focus on artworks that present the plants as cut and placed in vases or displayed in wreaths. Rather than discussing the represented plants as plants, scholars have worked on reevaluating the genre of flower painting, which has historically been viewed as low-ranking in the genre hierarchy. They have thus explored the links between the Danish nineteenth-century tradition and the Dutch seventeenth-century tradition, discussing how flowers were used to communicate through symbols and allegories (Sandberg, 2006).

Although there has been some focus on the challenges faced by the many female flower painters who were not allowed as students at the Royal Academy of Fine Arts, the flower painters most studied in monographic

exhibitions with large catalogues are the two male artists, Otto Diderich Ottesen and Johan Laurentz Jensen (Berner & Thelle, 2018; La Cour, 2017). The botany of the time is rarely discussed, and when paintings of wild-growing plants are mentioned, they are interpreted within the framework of a God-created nature or as symbols, not as plants in their own right, and no thorough analyses are provided. Although paintings of uncut plants were unusual before 1840, their numbers increased from that time onward. By examining these paintings and this shift closely, this article will relate the paintings to the interests of nineteenth-century botanists to discuss how the artists express a curiosity toward plant life that they shared with the botanists and remains a focus of scientists today.

2 Relocated, Cut, and Arranged

Christine Løvmand (1803–1872) was one of the prominent flower painters in mid-nineteenth-century Denmark, and two paintings by her is chosen for examination as they present strong statements in regard to plant-thinking. She exhibited the painting *A Bouquet of Flowers at the Foot of a Tree. On a Branch Hangs a Flower Wreath*.



Figure 1: Christine Løvmand, *A Bouquet of Flowers at the Foot of a Tree. On a Branch Hangs a Flower Wreath*, 1832. Oil on canvas, 65 × 57 cm. Statens Museum for Kunst <https://open.smk.dk/artwork/image/KMS1260>.

Wreath (Figure 1) at the Charlottenborg Spring Exhibition in 1832. The Royal Picture Gallery, which later became The National Gallery, immediately acquired the painting. The Spring Exhibition, held at the Royal Danish Academy of Fine Arts, was one of the only venues where artists could exhibit their work. Løvmand made her debut there at the age of 24 in 1827.

Showing plants in their natural habitat would become a distinctive feature for Løvmand, but this painting reflects the prevailing norm in flower painting of the 1830s, where it was common to depict cultivated and cut flowers (Floryan, 2006, p. 119). Often, flowers were shown in bouquets placed indoors or against an undefined background, though occasionally they were depicted staged outdoors, as seen here. In the painting, the wreath and the bouquet are small artworks in themselves. The flowers' colors and shapes complement each other, and the bouquet is neatly arranged beneath the beech tree, while the wreath hangs on one of its branches. There are, however, many artifices in the way the different plants are brought together. Firstly, they bloom at different times. Crocuses bloom in February–March, while hyacinths and anemones bloom in March–April. Tulips bloom in April–May, and the two peonies bloom in June–July. The beech tree bears leaves from April, while the common barberry shrub, to the right of the tree, blooms in May.

Secondly, most of the plants are native to regions far from Denmark. Only the beech tree, the wreath's anemones, and flowering hawthorn are species documented as wild in Denmark and mentioned in contemporary floras, such as Jens Wilken Hornemann's *Forsøg til en dansk oekonomisk Plantelære* (A Tentative Danish Economic Flora) from 1796. The other plants originate from regions ranging from the Mediterranean to Central Asia. When cultivated in Denmark, these plants are removed from the ecosystems where they evolved alongside other plants, insects, and soil bacteria. By being picked and arranged they are relocated once more, now from their new environment. Consequently, they are dying parts of plants that have been severed from their bulbs, roots, or branches.

Some of these plants have also been separated from their rich cultural histories. This is evident with the two peonies (Figure 2). Various species of peonies have been cultivated in China since at least the Tang Dynasty for medicinal, culinary, and symbolic purposes. Peonies native to Southern Europe also have a long history of



Figure 2: Christine Løvmand, *A Bouquet of Flowers at the Foot of a Tree*, 1832. Detail of one of the two peonies.

medicinal use, treating conditions such as convulsions and epilepsy, as explained by historian Ashley Buchanan. Thus, numerous peony species were utilized as powerful herbal remedies across European and Asian societies. However, it was not until the late eighteenth century that Europeans began intensively breeding the larger, fuller, and more fragrant Chinese varieties, thereby relocating Asian peonies. Naturalists like Sir Joseph Banks were instrumental in introducing these varieties to European royal gardens (Buchanan, n.d.).

The breeding of living plants for ornamental purposes coincided with a significant shift in attitudes toward their medicinal properties. Buchanan explains that the use of herbal therapeutics “changed dramatically over the course of the late eighteenth and nineteenth centuries as European chemists, botanists, and physicians began favoring the creation of standardized and systematic medical experimentation to assess the efficacy of plant medicines and identify and isolate their active chemical compounds” (Buchanan, n.d.). Consequently, the relocated and somewhat hybridized plants, as Singaporean-American scholar Richard Zhang argues, became “confined to the ornamental” and “stripped of their myriad medico-cultural associations” (Zhang, 2021, pp. 51, 42).

Plants of Danish origin also transitioned from being valued for their utility to being appreciated purely for their decorative qualities. Hornemann explains how the sap of anemones “had earlier been used in medicine” (1806, p. 525), but there is no indication of this in the painting, where the flowers are depicted solely for their aesthetic value. This shift aligns with the developing flower industry of the time. During the nineteenth century, commercial nurseries began to appear around major cities, and the custom of using cut flowers for various occasions – such as weddings, funerals, and hostess gifts – emerged, along with the practice of placing potted plants in windows. This led to the establishment of flower shops, which supplemented the older practice of selling flowers at markets and stalls. Like the colonial transport of plants, this commodification required relocation – cutting and moving plants from one living world to another.

This relocation of plants is evident in Løvmand’s painting. Despite the meticulous depiction of the flowers, the artist does not present them as living and rooted. As the cut flowers are arranged in a bouquet and a wreath, their ornamental rather than their world-creating and medicinal qualities are emphasized. However, what is intriguing in the painting, in terms of plant-thinking, is that Løvmand makes the premise of this relocation visible by depicting the flowers arranged against the exposed roots of a tree. The beech tree’s roots are exposed and enlarged relative to the trunk’s thickness, occupying a significant part of the image and forming, along with the intact trunk, a backdrop for the scene. It is as though Løvmand is making a clear statement about the premise of this type of flower painting. These roots create a stark contrast to the cut flowers, whose doomed beauty she captures. Although none of the flowers in the painting are withered, she makes it clear that they are cut from their stems or roots to be artificially assembled.

A lesser-known part of Løvmand’s sparsely documented biography is that she also authored three children’s books. In one of them, *Blomsterpigen* (The Flower Girl), published anonymously in 1855, she highlights the violence inherent in cutting flowers by unfolding the severity of clipping roses. The poem begins with her describing how the fragrant cluster of roses is “gently cradled on the stem’s arm” in the sun and cannot “endure the night’s cold cheek.” However, the rose “sinks down from a clip, it will not die in peace on the bush.” The girl sighs mournfully as she “slashes the stem,” but the rose submits to being cut, exclaiming, “I gladly die [...] when I die on the girl’s bosom” (Løvmand, 1855, pp. 1–3). Here, there is an expression of intimacy and empathy with the rose that attributes “the same fundamental substratum to their life and to ours,” as Marder puts it when questioning empathy as a way to approach plants (2013, p. 181). Indeed, this way of expressing empathy with plants distracts from recognizing their otherness and can cause us to “overlook all the marvelous things that plants can do that animals cannot,” as Natasha Myers discusses when addressing both the trap and the lure of anthropomorphism (2015, pp. 39, 43).

The potential problem with empathy, particularly when we fail to consider what it means for the other to be the object of our empathy, is evident when the flower girl in Løvmand’s book imagines that the rose enjoys being cut. A fundamental part of plants’ lives is their “stretching up and down simultaneously” and the way a plant thus “merges with the external environment, to which it is completely beholden” (Marder, 2013, pp. 32, 66). Though this connection is acknowledged in Løvmand’s children’s book through the plants’ imagined acceptance, it is also violently broken. In the painting, Løvmand similarly acknowledges this important aspect

of plant life, as she is explicit about the premise of the cut by showing exposed and enlarged roots and the uncut trunk of the tree. However, she clearly depicts plants on our terms rather than theirs. Focusing on images like this, which depict flowers as disconnected from the plants, is, as Michael Marder might argue, to remain with the critique. Therefore, it is crucial to seek out artworks that show plants more on their terms by displaying them as growing. Examining the artworks displayed at the Charlottenborg exhibition in the 1840s, we find such representations, with Løvmand among the artists leading this shift.

3 Observing Wild-Growing Plants

Less than ten years later, in 1842, Løvmand exhibited *Flower Piece* (Figure 3) as one of three paintings entitled “Three Paintings with different wild growing flowers.” This painting is one of the first in Danish art to feature wild-growing plants in a precisely defined environment as the main subject. When searching for the term “growing” (in Danish “voxende”) in the titles of the Charlottenborg exhibition catalogs, very few paintings appear to present uncut plants prior to Løvmand’s work. An exception is *Wild Growing Flowers on a Zealand Meadow* by Lucie Marie Ingemann, exhibited in 1826, and *Wild Growing Flowers* by Johan Laurentz Jensen, exhibited in 1840. Shortly after Jensen’s now-unknown painting and Løvmand’s *Flower Piece*, the term “growing” began to appear more frequently in the titles at the exhibition. Seventeen paintings exhibited at Charlottenborg in the 1840s included “growing” in their titles, and in the 1850s, nineteen paintings included “growing” (Reitzel, 1883). This indicates an increasing awareness and appreciation of plants as living beings.



Figure 3: Christine Løvmand, *Flower Piece*, 1841. Oil on canvas, 46 × 58 cm. Statens Museum for Kunst <https://open.smk.dk/artwork/image/KMS403>.

Løvmand's painting depicts a serene world illuminated by the golden glow of a low sun. She presents a variety of plants against the backdrop of a meadow with a lake and a stream. The scene features meadow grass (*Poa*), ryegrass (*Lolium*), oak (*Quercus robur*), honeysuckle (*Lonicera periclymenum*), ivy (*Hedera helix*), bluebell (*Campanula rotundifolia*), scentless mayweed (*Matricaria inodora*), and long-headed poppy (*Papaver dubium*). Capturing their various stages from bud to seed capsule, Løvmand has depicted the plants as they would appear in June. She also includes animal life, with a butterfly visiting a bluebell and two snails making their way through the soil beneath the ivy.

The perspective is low, and the background is simplified to make the shapes of the plants stand out. The flowers are precisely defined, and the leaves are sculpted with distinct ribs and stalks. Although many plants are growing closely together and overlapping each other, there is clarity in both the overall structure of the image and the individual forms.

This method of depicting plants, along with the artist's emphasis on common uncultivated plants, aligns with the interests of Danish botanists such as Jens Wilken Hornemann, a key figure in Danish botany. In 1796, Hornemann published the first systematic description of wild and cultivated plants with the initial edition of *Forsøg til en dansk oekonomisk Plantelære* (A Tentative Danish Economic Flora). In 1805, he became the publisher of the comprehensive botanical atlas *Flora Danica*, an ongoing project initiated by King Frederick V in 1761 (Knudsen, 2016; Hornemann, 1806–40). Hornemann continued to work on updated editions of his text-based flora and was the first botanist to travel extensively throughout Denmark to collect plants. His flora described 1,092 species, of which he considered 762 to be naturally occurring and 290 to have been introduced by humans (Friis, 2010; Knudsen, 2016). This trend in botany to examine the native flora is also reflected in the founding of Botanisk Forening (the Botanical Association) in 1840, which aimed at studying Denmark's natural environment (Rostrup, 1887).

There seems to be a special connection between botany and art, possibly spurred by the botanical garden being located adjacent to the buildings housing both the Charlottenborg exhibition space and the Royal Art Academy. Løvmand's presentation of common plants in Denmark indeed reflects the interest in native flora, and her paintings also emphasize the clarity of forms, akin to the illustrations in *Flora Danica*. Løvmand's



Figure 4: Scentless mayweed (*Matricaria inodora*), *Flora Danica* Hft. 33, Tab. 1936, 1829. <http://www5.kb.dk/images/billed/2010/okt/billeder/object317392/da/>.

depiction of scentless mayweed, for example, mirrors the botanical atlas's illustration of the plant from 1829 (Figures 4 and 5), which was created under Hornemann's guidance. Here, *Flora Danica*'s illustrator shows the different stages of the flowers and the almost geometric patterns of the leaves. The plant's leaves, flowers, stems, roots, and seeds are spread out on a neutral surface, resembling a herbarium sheet, and the plant exhibits regular, almost perfect shapes with no missing, damaged, or withered parts. The petals are clearly defined by an unbroken outline, and the illustrator is not just repeating geometrically perfect shapes but closely examines each individual petal to discern how it – though it may be slightly bent or overlapped by another petal – is still an elongated form, widest in the middle and divided into three narrow pieces. This method of clearly defining shapes and then repeating them with idealizing precision, allowing only slight variations, has guided the illustrator. This process of drawing requires sharp and sustained observation, as well as the ability to analyze and synthesize impressions.

Science historians Lorraine Daston and Peter Galison, in their seminal book on scientific illustrations, *Objectivity*, characterize this method of rendering plants as a search for an underlying truth-to-nature. In this pursuit of truth, the scientific illustrator was to “analyze and synthesize impressions” and use both “patience and talent to extract the typical from the storehouse of natural particulars.” Discussing this method, Daston and Galison refer to one of its leading figures, German poet and naturalist Johann Wolfgang Goethe, who explained that “the human mind must fix the empirically variable, exclude the accidental, eliminate the impure, unravel the tangled, and discover the unknown” (2007, pp. 58–59).

Comparing the way Løvmand and the botanical illustrator render the flower of mayweed, there are certainly similarities. As with the *Flora Danica* illustration, all petals are perfect in shape and form. None is missing or damaged, and variations are minimal. Løvmand renders the individual flowers with a similar eye for essence and expresses this in perfect forms: the white oval petals and the round yellow disc florets. She thus expresses a tendency of mastery that lies in trusting the ability of the observer to look past irregularities to find an essence.

To depict plants in this way demands a technique of carefully balancing the ideal with the real. The textbooks the painters of flowers used when they taught amateur students describe this technique. Looking into this, art historian Marie-Louise Berner has characterized the technique as a kind of meditation, a training of the mind with a focus on process rather than product. She argues that the technique's refinement of the sense of sight was assumed to unify body and spirit, thereby cultivating the ability to distinguish “between good and evil” (2012, pp. 371, 374).



Figure 5: Christine Løvmand, *Flower Piece*, 1841. Detail of mayweed.

What these textbooks identify as “good,” however, is viewed differently today. Daston and Galison, for instance, take a different stance when they describe the approach of one of the key figures, the Swedish botanist Carl Linnaeus, as “aggressively selective” (2007, p. 59). The aggression lies in the distrust of the individual plant and how this method of rendering nature is not in accordance with the way “nature seldom repeats itself, variability and individuality being the rule rather than the exception” (2007, p. 63).

When we look back at this method of “aggressive selection” from our time of climate and biodiversity crises, not acknowledging the dynamics of nature is surely problematic. From our modern viewpoint, we may view the truth-to-nature method of rendering plants in Løvmand’s painting with suspicion. However, Løvmand appears to take countermeasures. The shift from painting flowers to rendering plants meant challenging this method by increasing the complexity of the motif, showing many plants growing together. She does not follow Goethe in unraveling the tangled, as the mayweed entwines with the poppy, and parts of other plants are in front of or behind it, and she is not aggressively selective. She could have chosen to render just one or two species of plants, but challenges the essentialist way of painting by depicting the complex context that comes with the choice of showing a plant together with other plants and animals at their growth site.

An art critic of the time, Karsten Friis Wiborg, a pastor and later politician who reviewed the spring exhibitions at Charlottenborg, argued that artists should apply the truth-to-nature approach to plants. He stated in his 1838 review of the exhibition that “the artist should not strive for ... mere likeness between the painted plant specimen and that after which the artist paints.” Instead, the artist should “thoroughly study the whole species, whose individual specimens one wishes to depict ... as it is the ideal of the species that the flower painter should portray in the individual specimen” (1838, p. 27). In 1841, he returned to this issue arguing that the artist should “avoid the ugly marks of corruption and imperfection, and represent the different plant forms in their most perfect character, adorned in external shape, growth, lushness, and color” (1841, pp. 30–31).

He, however, also recommended that artists enhance the color play by including a great diversity of plants in larger groups, ensuring not to “group flowers that belong in different seasons or climates” (1841, pp. 30–31). He thus recommended artists to balance the ideal with a realism that consisted of being true to the way plants appear in nature. He praised a now-unknown painting by Løvmand exhibited in 1841 for showing “the flowers at their natural growth site, in their natural occurrence. This should undoubtedly be highly recommended” (1841, p. 35).

Wiborg encouraged flower painters to show flowers as part of growing plants and not to relocate them. He thus recommended the artist avoid cutting plants and bringing them artificially together from different climates or seasons. Though recommending a truth-to-nature attitude, he thus also encouraged the complexity that arises when artists show plants in their natural environment. The following year, in 1842, Løvmand presented *Flower Piece*, almost as a reply to Wiborg, depicting living wild plants at their growth site, thus contributing to the turn that Wiborg wanted the exhibition’s flower paintings to take.

Taking this direction a step further, Løvmand in *Flower Piece* chose to depict common rather than rare plants. Through her painting, she highlighted prevalent plants that most people could recognize but might not have considered significant. This deliberate choice is evident in her works, many of which are now only known as titles listed in the exhibition catalogs of Charlottenborg: here, forget-me-nots, starflowers, and violets figure. The choice of painting prevalent plants was also conveyed to the amateur students whom Løvmand taught privately. One of the students was the celebrated actress Johanne Luise Heiberg, who recounted that in 1834, Løvmand encouraged her to “begin to paint wildflowers from nature ... the small, fine plants and blades of grass, and I was delighted when they on paper became a true representation of the originals” (Heiberg, 1973, p. 249). Løvmand’s art practice should be evaluated through both her works and her teaching, as she disseminated an approach that valued wild-growing plants, including the most common grasses.

4 A Green and Moving Plant World

What did it mean to depict plants as living beings in their natural growth sites? What were considered the central characteristics of plant life at the time, and how was a plant’s behavior toward its surroundings described?

In the 1770s, the Dutch doctor Jan Ingenhousz identified that photosynthesis takes place in plants' leaves. Throughout the nineteenth century, it became increasingly clear that this process was pivotal in understanding plant life. As German physician, Julius Robert von Mayer put it in 1845: "Nature has given itself the task of catching in flight the light that overflows on Earth and of guarding this most mobile of forces after having frozen it into a solid form. To reach this goal, it has covered the terrestrial surface with organisms that take solar light in themselves and, as they use this force, produce a continuous sum of chemical differences. These organisms are the plants. The plant world constitutes a reservoir in which the volatile solar rays are skillfully frozen and made available for use." Emanuele Coccia highlights this quote from Mayer as an example of how nineteenth-century botanists described plants as world-makers (Coccia, 2018, p. 74).

In the Danish context, botanists also turned to light as the most important external force to which plants react. Botanist Joachim Frederik Schouw in the mid-1830s lecture "Lysets Indvirken paa Planterne" (The Effects of Light on Plants) communicated the latest knowledge to a broad audience. Schouw was a student of Hornemann and closely associated with several artists in Løvmænd's circle (Hedin, 2019). In 1841, he took over as professor of botany after Hornemann and had already then made a name for himself as a strong communicator of the latest developments in botany. In his lecture, he described how the intensity of the green color reflects the plant's reception of sunlight through "respiration and the resulting binding of carbon." He also described a more active movement when sprouts stretch toward a light source and when plants close their leaves and flowers at dusk. He refers to this as "planternes søvn" (plant sleep), but also discusses the experiments of French botanist Augustin Pyrame de Candolle on "heliotropism" (Schouw, 1839, pp. 20–21).

The way Løvmænd depicts leaves and flowers in her painting suggests that she was attentive to photosynthesis and the heliotropic movement of plants. She shows the individual leaves in detail, distinguishing between the green upper sides that catch the sunlight and the lighter, more colorless undersides. In many leaves, she records the ribs and veins that transport water and minerals. Additionally, she observes how plants, through their varying heights, occupy different niches – from the ground-crawling ivy and the lowly bluebell to the gradually taller mayweed, poppy, ryegrass, and meadow grass, culminating in the honeysuckle with its meter-long tendrils and the oak tree whose trunk and crown extend beyond the top of the image. One senses how they stretch toward and capture light in very different ways with their leaves.

In addition, Løvmænd has chosen to depict the time of day when the light changes, showing a slight reddening of the clear sky towards the horizon. This choice allowed Løvmænd to illustrate the plants' reaction to changing light, which, according to Schouw, causes some flowers to close their petals. We see a slight closing of the flowers of both mayweed and poppy, which we can imagine may be the effect of the changing light of early morning or evening. Not all flowers or leaves react in this way; the finer, more sensitive leaves and petals are more prone to react to diminishing sunlight, and as Schouw makes clear, some plants react in the opposite way (1839, pp. 22–23). Honeysuckle, for example, keeps its flowers open and emits stronger scents in the evening (Hornemann, 1806, p. 222).

Løvmænd thus captures the movement of plants as they react to light. However, this is not the only movement of plants that Løvmænd and the botanists of the time paid attention to. Plant movement is also guided by the sensation of touch, which was studied in experiments with mimosas and different kinds of climbing and twining plants. Løvmænd's choice of rendering ivy and honeysuckle is particularly interesting in this context, as she highlights their climbing and twining behaviors. She shows us how ivy produces flowers and unlobed leaves while climbing upwards, and only five-lobed juvenile leaves when crawling horizontally. She also details the many reddish tips of the ivy that are the points from which the plant's movement originates (Figure 6). Regarding the honeysuckle, she makes clear that it climbs in a different way, twining around the oak instead of clinging.

Philosopher of science at Université libre de Bruxelles, Quentin Hiernaux, has examined the nineteenth-century discussion of plant behavior. As early as the sixteenth century, climbing and twining plants entered discussions about plants' "ability to perceive adjacent objects insofar as they seek them out and surround them." However, Hiernaux finds that there was an increasing openness in the nineteenth century to the idea that plant sensibility and movement reveal plant agency (2021, p. 3631). Agency here implies autonomous behavior involving sensitivity and choices that cannot be reduced to mechanical constraints and was termed



Figure 6: Christine Løvmand, *Flower Piece*, 1841. Detail of ivy with reddish tips.

“soul” in the nineteenth century (2021, pp. 3636, 3639). He clarifies, however, that this was not the main trend in botany at the time, but rather a persistent undercurrent.

In the Danish context, Schouw addressed this question in his lecture on the effect of light on plants and he appeared as one of the sceptics. When discussing the reaction of mimosa (and other plants) to touch, he argued that these movements were not the result of choice, as they are in animals and humans. He made it clear that he believed plants to occupy a lower stage of development. Though he stated that there “is nothing in the plant that indicates consciousness or the ability to choose, and no trace of nerves or muscles,” he also acknowledged that “a satisfactory explanation can hardly be given yet” (Schouw, 1839, p. 21).

In 1866, plant movement was discussed again by the anonymous author “K.” under the title “Lidt om Bevægelsen hos Planterne” (A Little on the Movement in Plants) in *Tidsskrift for Havevæsen* (Journal of Horticulture). Here, “K.” described how French physiologist Henri Dutrochet, examining the tendrils of peas, “searched for the origin of this strange movement in an inner life force.” He also referred to French botanist René Louiche Desfontaines’ experiment from around 1800 with a branch of *Mimosa pudica*, a member of the pea family, that, during a shaky cart ride, got used to the movement of the cart and stopped reacting (1866, pp. 152–154). Though “K.”’s article appeared after Løvmand painted *Flower Piece*, it reviewed scientific developments dating back to the end of the eighteenth century that, to a greater extent than Schouw, acknowledged plant agency.

Possibly the curiosity towards this open question in botany had caught her attention, or perhaps, she was simply attentive to plants and independently became interested in the agentic tips and tendrils of climbing and twining plants. Another painting by her, *Fruits in an Italian landscape*, exhibited at Charlottenborg in 1844, shows vine and bindweed with many pursuing tendrils (Figure 7).

Løvmand, however, was not the only artist fond of climbing and twining plants. Artists often depicted vines, ivy, and bindweed in their paintings for example, Emma Thomsen, Hanne Hellesen, and Johan Laurentz Jensen. These plants, however, are no easy pick for a painter, as they are closely connected to and tangled with their surroundings. They are difficult to cut and arrange which may have led artists to make careful studies of where the plants grew. Choosing them can be seen as an expression of interest in plant movement and a way to add complexity as a countermeasure to the truth-to-nature depiction of plants expected from artists at the time. This was the state of affairs in the 1840s. The next move for the artists was to get closer to the plants on an individual level and embrace change in the form of breakdown and withering as important dynamic aspects of plant life.



Figure 7: Christine Løvmand, *Fruits in an Italian Landscape*, 1842-3. Oil on canvas, 100 × 84.5 cm. Statens Museum for Kunst. Detail of vine and bindweed with many tendrils. <https://open.smk.dk/en/artwork/image/KMS453>.

5 Three Species of Anemones

Breakdown and withering are captured in a painting by Anthonie Eleonore Christensen, known as Anthonore Christensen (1849–1926). In 1867, she presented a small but significant painting at the Charlottenborg Spring Exhibition titled “Growing Anemones. Early Spring.” Here, early spring has arrived, and three species of anemone radiate, growing together with lichen and mosses on a forest floor of fallen and decaying leaves and branches (Figure 8). Christensen, who was the daughter of one of Christine Løvmand’s students, Eleonore Tscherning, in many ways, followed the path Løvmand had laid out, albeit with her own unique approach.

Christensen’s painting is among the many at the Charlottenborg exhibitions in the 1860s featuring “growing” in the title. Compared to the 19 paintings in the 1850s, the number of paintings featuring “growing” in the 1860s increased to 32, and this tendency continued with 37 paintings in the 1870s (Reitzel, 1883). Only a few of these paintings are known today, but this painting by Christensen is available for examination as it was acquired by The Royal Picture Gallery and is still part of the collection. The painting appears to have received attention as a painting that expressed itself with clearness and power, and a professor at the Royal Academy, Wilhelm Marstrand, suggested offering it a price (Müller, 1905, p. 129). Though Christensen was considered noticeable, especially during this part of her career, her works have received little mention in art historical writings. It is thus important to review her position in the shift from painting flowers to rendering plants, though paintings by artists such as Emma Thomsen and Hermania Neergaard were also acquired by the Royal Picture Gallery and could also have been examined in this context.

As for many other of these women artists, we only know little about Christensen except for the fact that her mother was a landscape painter, that she was married for 5 years to philologist Richard Christensen, and that she, like Løvmand, taught flower painting (Tscherning et al., 1908). She made her debut at the Charlottenborg exhibition at the age of 18 in 1867, and the following year she exhibited “Growing Anemones. Early Spring,” which is known today simply as *Anemones*.

In Christensen’s work, an array of early spring plants are seen: liverleaf (*Anemone hepatica*), wood anemone (*Anemone nemorosa*), yellow wood anemone (*Anemone ranunculoides*), yellow star-of-Bethlehem (*Gagea lutea*), wood-sorrel (*Oxalis acetosella*), and wood-sedge (*Carex sylvatica*). Animals include a brimstone butterfly and a bumblebee. In the background are young beech trees with withered leaves and buds about to



Figure 8: Anthonore Christensen, *Anemones*, 1867. Oil on canvas, 37 × 44 cm. Statens Museum for Kunst. <https://open.smk.dk/en/artwork/image/KMS860>.

burst, and in the foreground are fallen branches on which moss and two species of lichen grow. Like Løvmand, Christensen depicts the plants in detail and shows them with characteristics that make them easy to identify.

Christensen depicts the three species of anemones found in Denmark, and although the rare blue one, commonly known as liverleaf, usually flowers already in March, she shows it next to the more common white and yellow anemones, which typically bloom in April. She carefully illustrates their differences in accordance with the descriptions of them in the floras. For example, the leaves of the white and yellow anemones are fine and deeply divided, while the blue anemone has three-lobed, leathery leaves that are overwintering and thus can appear worn. She also differentiates between the white and yellow flowers, showing the yellow as smaller and with one fewer petals.

6 Laying on the Forest Floor

The floras mentioned anemones as pretty, and showing three species blooming together in a painting ensured a beauty that could match the genre's depiction of exotic and cut flowers. The freshness and beauty of the anemones, however, are set against a depiction of moss, lichen, and withered leaves, as Christensen invites the viewer into a dark and complex world (Figure 9). She has chosen a low perspective, quite literally placing herself on the forest floor to highlight the environment of the anemones. She explores the intricate interplay of life at ground level, rendering it in 1:1 scale, with the lichen measuring around 3 mm in both the painting and

real life. Although it is likely that she worked from sketches and picked flowers, she constructed a perspective that we today might describe as situated, in the sense of Donna Haraway, that the “only way to find a larger vision is to be somewhere in particular” (Haraway, 1991, p. 196). If her painting technique is a meditation, it is one of embeddedness in the transience and complexity of life. She, as Marder suggests when providing a framework for an ethics of plants, cultivates “a certain intimacy with plants, which does not border on empathy or on the attribution of the same fundamental substratum to their life and to ours; rather, like all intimacy, it will take place (largely) in the dark, respectful of the obscurity of vegetal life” (2013, p. 181).

This way of developing an intimacy that respects the obscurity of vegetal life can be seen in this painting by Christensen. Her choice of depicting the anemones as situated on the forest floor contrasts with the way botanical illustrations isolate the plant on a stark, white background for clarity and examination, as discussed by art historian Giovanni Aloï (2019). It also differs from the approach of many Danish flower painters, such as Jensen, Thomsen, and Ottesen, who often isolate plants from their environment by showing them on light or dark-neutral backgrounds. Unlike this tradition, the dark background in Christensen’s painting is rich and complex, implying undefined life processes. She makes clear that the plants are part of an environment that also encompasses decay and regeneration. With nuances of brown dominating the painting, she emphasizes that plants do not only live off sunlight but also rely on soil and minerals.

Christensen’s interest in the complexity of plants’ interactions with their surroundings is evident in her inclusion of lichen in her painting. She shares this interest in lichen with the botanists of her time. Lichen had been included in *Flora Danica*, but according to Danish botanists Jakob Severin Deichmann Branth and Emil Rostrup, “this class of plants seems to have been more neglected by Danish botanists than others” (1869, p. 19). However, in 1866, the year before Christensen painted lichen, the University of Copenhagen offered a natural history prize for mapping Denmark’s lichens. Branth and Rostrup both responded to the challenge and combined their prize papers into a joint dissertation. This was published in collaboration with *Botanisk Tidsskrift* (Botanical Journal) in 1869 as *Lichens Daniae eller Danmarks Laver* (Lichens Daniae or Denmark’s Lichens).

A renewed interest in lichen was not a Danish phenomenon. In 1867, the Swiss botanist Simon Schwendener put forward the theory that “lichens have to be seen not as autonomous plants, but as fungi in connection with algae” (Honegger, 2000, p. 308). The fungus usually constitutes the largest part of the foliage, but the algae have a significant influence on its shape and color, with the many greenish shades revealing the



Figure 9: Anthonore Christensen, *Anemones*, 1867. Detail.

algae. The fungus and the algae live in symbiosis, a concept defined in 1877 that originates from research on lichens. In this symbiosis, the algae capture energy from sunlight and use it to create carbohydrates, which are shared with the fungus that, in turn, houses the algae. This mutually enriching relationship has captivated scholars, including Donna Haraway, who in *Staying with the Trouble* uses it as a symbolic example of living frugally together (2016). Peggy Karpouzou and Nikoleta Zampaki, also engage with the symbiosis and expand the concept by arguing that the symbiotic can be an important theoretical framework for reconceiving relationships between the human and the more-than-human and exploring notions of agency and subjectivity (2023, pp. 11, 20).

Although the books about lichen that Christensen might have consulted do not mention that lichen is a symbiotic organism crossing two kingdoms, there was an awareness of lichen as making life possible for other life forms. In 1837, Hornemann described how lichen created conditions for other life forms to thrive in harsh environments. He suggested that “the finest, least organized lichens are the first plant inhabitants on [rock or coral] reefs,” making “the area receptive to larger plants,” and that they also “fertilize heaths” and “shelter trees from the sharpness of northern and other winds” (1837, pp. 597–598). Schouw shared this view and speculated on lichen’s role in the historical development of plants in the lecture “Fortsatte Bidrag til Planternes Historie” (Continued Contributions to the History of Plants). Here, he writes that “the plants which first settle on the bare lava are, as far as my own observations go, especially the lower plants known as lichens,” and that the plant world “presents a historical development, with the imperfect ones appearing first and gradually the more perfect ones” (1839, pp. 37, 43).

The attentiveness towards lichen thus reflected a curiosity about how life has evolved, both regarding the greening of volcanic islands and speculations on life in distant eras. Broadly speaking, attention to lichen grew as scientific ideas about nature’s dynamics and complexity began to challenge traditional views of nature as orderly and ideal. As science historian Malcolm Nicolson discusses, there were “two distinct forms of plant geography” in the nineteenth century. The “floristic” tradition of Linnaeus with a focus on flowers, and an “emphasis upon the study of the collective phenomena of vegetation,” as communicated by Alexander von Humboldt, who studied the vegetation’s character, distribution, and relation to environmental parameters (1996, pp. 289, 309). Humboldt expressed that he studied “the connections and relations by which all plants are bound together among themselves” (1996, p. 290). Humboldt’s influence on Danish botany was significant through Schouw, who was “one of the earliest Humboldtian plant geographers” (1996, pp. 292–293). In the 1860s, Humboldt’s influence on Danish botany can be seen as Emil Rostrup in 1860 presented the first Danish field guide with his *Vejledning i den danske Flora: En populær Anvisning til at lære at kjende de danske Planter* (Guide to the Danish Flora: A Popular Instruction to Learn to Recognize the Danish Plants). Here, plants were divided according to a “natural system” of plant families rather than the Linnaean flower-based taxonomy, and Rostrup emphasized the local conditions under which plants thrive (1860, p. vi).

To support this, it became necessary to move away from a “truth-seeking” mode of scientific illustration and adopt an approach that valued direct observations in nature with all its irregularities and complex combinations of plants. Artists like Christensen were crucial in creating such new image schemes. When Christensen depicts a forest floor with lichen, she actively chooses to open the viewer’s eyes to a plant world that, though common in Denmark, was overlooked and foreign to many, but demonstrates how different species of plants and animals live closely together. In this way, she opens for ways to look at plants that are in line with the way both Coccia and Marder stress plant complexity and otherness and the way plants are deeply connected to other species creating a world of togetherness.

7 A Mesmerizing World of Poppies

Christensen chose a different approach in the painting *Poppies*, inviting the viewer into a very different biotope – a garden flowerbed (Figure 10). This work, created in 1892, was exhibited at Charlottenborg in 1893 as “Valmuegruppe fra Strandmøllehaven” (Poppy Group from the Strandmølle Garden) and received a

prize. It was acquired the same year to become part of the collection of The National Gallery and today carries the title *Poppies* (Engelstoft, 1934).

The painting is large, measuring 124 × 99 cm. In contrast, *Anemones* is much smaller, only 37 × 44 cm, reflecting the modest scale of the forest floor plants it depicts. In *Poppies*, the large canvas allows the plants' vibrant colors and bold shapes to make an impactful impression on the viewer. The viewer is drawn into the ephemeral world of a summer flowerbed. The composition features a variety of poppy flowers. At the top, there are white double flowers and single-petal flowers with bases that are either white or black. Further down, there are dark purple-violet flowers and fringed pink ones. The painting shows different stages of growth and blooming, with many plants having round green seedpods, suggesting they have been allowed to



Figure 10: Anthonore Christensen, *Poppies*, 1892. Oil on canvas, 124 × 99 cm. Statens Museum for Kunst. <https://open.smk.dk/artwork/image/KMS1467>.

complete their flowering without being picked. In the background, more flowers can be seen under the shelter of trees.

Spatially, the painting employs multiple perspectives. The plants in the foreground are seen from a low viewpoint, while the flowers in the middle are viewed slightly from above. The background's seedpods and swelling buds are viewed head-on against a high horizon line. This mix of perspectives gives the painting a sense that everything is vibrating and moving, both the plants themselves and the ones watching them. This impression is enhanced by the rich variation in how the green leaves twist and catch the sunlight, with a cool green on the upper side and a warm light green on the underside.

Returning to the concept of plants as world creators that Coccia presents, Christensen shows us how the leaves of the poppies are vital parts of the plants, depicting them in great detail as dynamic forms that orient themselves to the incident light. The flowers are also described in detail, and the flower crowns in the painting, especially the filled and jagged ones, emphasize that everything is moving. This is confirmed by the depiction of some flowers shedding their petals. Christensen shows these petals of different colors in mid-fall or lying on the ground. Part of this dynamism lies in how the flowers, in their many vivid forms and colors, act as "attractors." Coccia articulates this when he explains how the flower "instead of going toward the world ... attracts the world to it. Thanks to flowers, plant life becomes the site of an explosion of colors and forms and of a conquest of the domain of appearances" (2018, p. 104).

Christensen not only shows the attractiveness of the flowers in their different forms but also some of the beings that the flowers attract. Two butterflies, one sitting on a seed capsule and the other flying, are part of the image and enhance the impression of dynamism, reminding us that the poppies bloom for the pollinators.

8 Powerfull Plants

Christensen depicts different types of poppies, but predominantly those referred to as the opium poppy (*Papaver somniferum*). Only a single red poppy in the left foreground has a size and a dissected leaf shape that seems to belong to the great scarlet poppy (*Papaver bracteatum*), commonly grown in gardens. The rest are opium poppies, which were widespread at the time. According to the floras, opium poppies appeared both in gardens and as self-seeded plants near dwellings, as one of the five species of poppies one might encounter in Danish nature. The opium poppy was part of Hornemann's 1806 edition of *Forsøg til en dansk oekonomisk Plantelære* (A Tentative Danish Economic Flora) as a species which "is native to southern Europe, but is now found here in the wild" (1806, p. 514). The opium poppy continued being included in the floras. Johan Lange, a professor of botany at the University of Copenhagen, described it in *Haandbog i den danske flora* (Handbook of the Danish Flora) of 1851 as "originally introduced from the Orient and Southern Europe, it is commonly cultivated in gardens and often found wild around inhabited areas" (1851, pp. 322–323). He describes the leaves as blue-green and sinuate-lobed, the seed capsule as almost spherical, and the petals as violet, red, or white. Gardening books also mentioned this species of poppy as suitable for cultivation in gardens. In *Havebog for damer* (Garden Book for Ladies) from 1859, horticulturist Julius August Bentzien lists it along with other species of poppies (1859, pp. 221, 227). In *The Wild Garden* of 1870, Irish author and practicing gardener William Robinson recommends opium poppies as "growing in any soil" (1870, p. 52).

Amid Christensen's poppies, we are among plants that thrive in many climates and have been cultivated by humans since ancient times. The opium poppy, however, is a powerful plant. Hornemann, in his flora of 1806, describes how the seeds of the opium poppy were used in cakes, but notes that not everyone feels well after consuming the seeds. One can become "exceedingly sleepy" (1806, p. 514). He also describes how in "Eastern lands, where it reaches a significant size, the poppy is cultivated for its sap, which is particularly contained in the capsule and is known as opium" (1806, p. 514).

Hornemann's botanical handbook, which was printed in new editions until 1837, was one of the last floras in Denmark to mention the use and power of plants. While botany as a science appears to know more and more and disseminate this, a loss of knowledge also stands out. The early floras on Danish plants included information about the uses of plants among common people in traditional medicine, crafts, fodder for animals,

and more. These floras also mentioned the many names each plant was known by, which often reflected the way plants was used. This knowledge was collected and presented in great detail in the floras as early as Simon Paulli's *Flora Danica Det Er: Dansk Urtebog* (Flora Danica It Is: Danish Herbal Book) of 1648. When Johan Lange published his flora in 1851, however, this knowledge was no longer included, and it was also omitted in Emil Rostrup's *Vejledning i den danske Flora* (Guide to the Danish Flora) of 1860. This demonstrated a split between the disciplines of medicine and botany. As argued in *The mind of plants*, the “movement away from herbals resulted in an affective divide between plants and people. From being focused on medicine, healing, and nutrition – specifically engaging the senses of taste, smell, and touch – traditional botanical knowledge systems became increasingly relegated to the domain of the abstract” (Ryan et al., 2021, p. 19).

With its powerful poppies, Christensen's image can be seen as a nod to this folkloric plant lore. She has chosen a plant that, through its sap, bridged the “affective divide between plants and people.” At this time, the medicinal use of morphine had set in motion an epidemic of opioid addiction in Denmark, as explained by historian of psychopharmacology Jesper Vaczy Kragh (2011). Morphine, derived from the sap of the green capsules of the poppy, was used as a pain treatment during the American Civil War and triggered an opioid epidemic. From the 1870s, drug abuse in Denmark grew as morphine addiction became particularly prevalent among “the higher class and the so-called educated middle class.” This is explained by psychiatrist Knud Pontoppidan in his dissertation *Den kroniske Morfinisme* (Chronic Morphine Addiction) (1883, p. 16). Pontoppidan described this strange phenomenon of the modern age, where “a stimulant and irritant” through “the Doctor's hand” became a curse that accelerated when morphine could be administered via injection (1883, p. 2).

This opioid epidemic affected the very classes that bought paintings for their walls and cultivated exotic plants in their gardens. At the same time as the power of the poppies became clear in Europe, Christensen captured their dazzling beauty. The opium poppy had made its way into Danish gardens, but no attempts to create opium from its sap are mentioned in Denmark. Hornemann had already made it clear in 1806 that the capsules of the Danish plants only contained small amounts of the substance used to make opium (p. 514). Producing opium, indeed, was a long and complex process, and in Denmark, the poppies were bred for their flowers and seeds. Although Christensen does not directly reference the contemporary opioid epidemic beyond her choice of plant, it is noteworthy that this cultivated plant is featured on such a large canvas with an emphasis on its green seed capsules.

Giovanni Aloï sees the display of exotic plants “as markers of power” since “the possession of exotic species, live or preserved, immediately spoke of substantial wealth and intellectual ability” (2019, p. 13). Considering the “vitality” of opium poppies, however, Indian writer and scholar Amitav Ghosh suggests that this plant is among the “beings and entities on this planet that have the power to amplify human intentions and intervene in relations between people” (2024, p. 11). In his exploration of the opium poppy's rich history with humans in *Smoke and Ashes: Opium's Hidden Histories*, he makes clear: “when humans interact with certain plants the relationship is not unidirectional; people too are changed by that association” (2024, p. 10). A specific example of this is found in India, where the growing of opium under harsh conditions in the nineteenth century still affects large areas, and more broadly, wars were fought over opium when it became a keystone of the colonial economy in Europe.

Ghosh attributes a certain agency to the poppy, and in this respect, it is interesting to look into the state of research on plant agency in Denmark when Christensen painted the poppies, especially as this research included drugging plants. In 1889, botanist Wilhelm Johannsen published an essay titled “Om Planternes Sjæl” (On the Soul of Plants) in the popular interdisciplinary journal *Tilskueren* (The Spectator). As a pharmacist by education, Johannsen worked in the laboratory of the Carlsberg brewery before becoming a professor of plant physiology, where he conducted experiments with plants. He argued that since consciousness can only be experienced by the individual to whom it belongs, the only way to examine it in animals and plants is by looking for physiological and chemical processes similar to those in humans (1889, pp. 168, 182). Among the many experiments he references is the exposure of humans and plants to ether or chloroform, such as when French physiologist Claude Bernard drugged a mimosa with chloroform (1889, p. 31). Johannsen performed similar experiments to investigate the nerve-like structures in plants and discovered “protoplasmic threads connecting the cells” (1889, p. 174). This led him to argue that, even though a soul or brain cannot be located in

a particular part of the plant, it is present in its overall structure, facilitating exchanges similar to those in the nerves of humans and animals. A plant philosopher like Marder would possibly point out that Johannsen, with his direct comparison of nerves in plants and animals, overlooks the otherness of plants. For instance, when he ranks plant intelligence as lower than that of humans instead of simply stating that it is different. However, he rejects the notion of plants as simple and insensible beings and ultimately acknowledges that we know very little about plants.

The nerve-like structures and networks in plants are also discussed today in relation to speculations on plants' memory and cognition. As part of this discussion, biologist Monica Gagliano has replicated René Louiche Desfontaines' experiments from around 1800 on the mimosa's ability to remember (Morell), while Natasha Myers has explored how contemporary scientists describe the ways in which "plants feel out their world." Myers addresses the way scientists draw analogies between humans and plants and uses anthropomorphism and plant-morphism when they do their research and communicate their findings (2015, p. 35). She argues that it is important for scientists to dare use anthropomorphism as a lure to open for insights (2015, p. 40).

It is noteworthy that during the peak of the opium epidemic, experiments using anesthetics were conducted on plants to examine their ability to exhibit some degree of consciousness. These experiments often concluded with caution but also maintained a degree of openness toward the question of plants' sentience. By choosing opium poppies, Christensen enters this experimental arena, and several narrative threads that we may recapitulate follow her use of multiple perspectives when constructing the picture space. First, there is the interaction between insects and poppies, centered around the flowers that reveal their ephemeral character as attractors. Secondly, the lushness of the plants shows how they are able to thrive in the soil of the garden at Strandmølle far from their place of origin. A third thread, suggested by the many seed capsules in the painting, hints at how opium as a drug had locked humans into a powerful both healing and destructive embrace of a plant. This pluralism of perspectives and threads suggested by Christensen in the way she organizes her painting suggests a form of plant-thinking. Keeping open to the many possibilities of interaction is one of the ethical offshoots suggested by Marder, who concludes his plant-thinking with an epilogue suggesting how our life with plants must be "respectful of the obscurity of vegetal life," recognizing "the many possibilities for our interaction with them" (2013, pp. 181, 184).

9 An Undercurrent of Plant-Thinking

We have examined four artworks by two artists who lived and worked in nineteenth-century Denmark. Let us sum up by asking to what extent the two artists managed to think *with* plants in a century that, according to Coccia, is a time when "philosophy stopped contemplating nature" and forced "any trace belonging to *the natural* from the domain of knowledge" (2018, p. 23).

Løvmand's two works show a transition in Danish art from depicting cut plants to presenting them as growing. In *A Bouquet of Flowers at the Foot of a Tree*, Løvmand shows cut flowers against exposed roots. In contrast, *Flower Piece* attentively illustrates how plants grow together, climbing, winding, and unfolding. While she captures flowers and leaves at their most fully developed stage, according to early nineteenth-century standards of beauty, she is also sensitive to the dynamic movements of plants. Although she does not depict the obscurity and decomposition of plant life, her interest in the unique movements of plants reflects the period's curiosity about the soul or agency of plants.

While Løvmand was one of the first artists to initiate a shift from depicting cut flowers to showing growing plants in their natural habitat, Christensen is among those who embraced the obscurity of plants and further developed the notion of plant agency. In *Anemones*, there is a tension between the almost perfect anemones and the different organisms that thrive among the withered leaves on the forest floor, including lichen that were believed to create conditions for other life forms. She gives these transitions between life and death an aesthetic value that is important for changing the visual schema for depicting plants in both art and science.

This dialogue between art and science is of interest in relation to all four artworks. Although the artists sometimes seem to engage with specific scientific findings, particularly the interest in lichen that coincides with the attention it received from scientists of the time, they should not be seen as merely trailing behind the scientists. Art also establishes possibilities for knowledge and pushes the boundaries of how to understand and represent the world. This is especially important in relation to plants, as engaging with the world of plants requires openness to them and a willingness to respect their obscurity.

Both artists depict a human-nature entanglement that relies on humans yielding space to the non-human. Instead of being represented, humans leave the scene to the non-human. Christensen demonstrates a radical version of this with her depiction of opium poppies in a garden. Though we are in a space shaped by human care, humans are not only absent but also seemingly under the spell of plants, which are portrayed as dynamic and world-creating. This particular plant, known at the time for its healing and destructive properties, exerts a powerful presence.

Another underlying theme of this article is how the artists challenge the prevailing views of plants in their time, and I have aimed to highlight the undercurrents of plant-thinking in nineteenth-century art. When future generations look back at our era, plant thinkers like Marder, Coccia, and Myers may be viewed as rare exceptions in a time dominated by industrialization and technology. Similarly, Løvmand's and Christensen's paintings stand out as exceptions within the mainstream currents of nineteenth-century Danish art. Typically, humans and their structures are central in art, and while some artists introduced new ways to depict plants as growing, many continued to represent them as cut. Similarly, art historians often maintain a human-centered perspective even when discussing representations of nature. For example, landscape paintings are frequently analyzed through the lenses of nation-building or artistic styles such as realism or impressionism, with little attention given to the significance of the plants, animals, and minerals depicted. In line with this approach, flower paintings and still lifes are often examined primarily for how flowers and fruits are used as human allegories and symbols.

These tendencies contrast with what is found when “mining” for representations of plants as plants and discussing the represented plants in detail. While humans are inevitably part of what is represented – since these paintings are objects created by humans for humans – the focus shifts. As mentioned earlier, using oil on canvas to depict plant life is an inherently human act. However, by portraying growing plants, the artists insist on acknowledging the plant side of the plant-human entanglement. Though the acknowledgment of plants by artists was only an undercurrent in the art world of their time, their insistence on the importance of plants is significant. They offer a small opening or crack in the dominant view of nature in the nineteenth century as they perform a subtle resistance that may inspire us today. This soft resistance is a vital way of responding to our current climate and biodiversity crises, as stepping back and carefully considering how all life forms are conditioned by and dependent on their environment is a crucial first step toward change.

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