

Modernity Gazing on Metamorphosis: Representations of Plants in German Language Film and Literature at the Beginning of the 20th Century

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Table of Contents

Abstract.....	3
Acknowledgements	7
Preface	9
Introduction	10
Chapter 1: Animating Glass: Representing the Elusive Plant Soul in Paul Scheerbart's “Flora Mohr: eine Glasblumen-Novelle” (1909).....	35
Chapter 2: Empathetic Media: Film and the “Gestures” of Plants in <i>Das Blumenwunder</i> (1926).....	76
Chapter 3: The Radical Other: The Metamorphosis of Humans and Animals into Plants in Gustav Meyrink's “Die Pflanzen des Doktor Cinderella” (1905).....	113
Chapter 4: The Plant Bites!: Deviant Plants in <i>Nosferatu</i> and <i>Alraune</i> as Metaphors for Social Instability in Weimar Culture	134
Conclusion.....	170
Works Cited	182

Abstract

This dissertation explores representations of plants in German-language film and literature at the beginning of the twentieth century. Five examples serve as case studies, demonstrating the widespread preoccupation with the motif of the “dynamic plant” at the turn of the century. I argue that the preoccupation with the motif of the “dynamic plant” demonstrates the interconnectedness of two broad cultural transformations that helped to change the public's perception of plants from one that viewed plants as nearly inanimate objects to a world view that saw plants as living, dynamic life forms similar to animals and humans. The first transformation was intellectual, characterized by a reaction to materialist, positivist and mechanistic explanations of the natural world that helped revive aspects of Vitalism and Romanticism. The second, based in media technologies, directly transformed the representation of plants through time-lapse photography, speeding up their movements to the pace of animals. These transformations helped to challenge the hierarchy of humans, animals and plants, introducing instability and fluidity into categories of being. The changing perception of plants was met with a variety of reactions that ran along a spectrum from acknowledgement and anxiety in Gustav Meyrink's short story “Die Pflanzen des Doktor Cinderella” (1905) and in the films, *Nosferatu* (1921) and *Alraune* (1928), to celebrating this new dynamism and fluidity in Paul Scheerbart's “Flora story, “Mohr: eine Glasblumen-Novelle” (1909) and the *Kulturfilm*, *Das Blumenwunder* (1926). The close readings of the films and short stories are supported by other examples of the dynamic plant motif from archival sources, in addition to the work of such naturalists as Raoul Heinrich Francé from the turn of the century and scientists and philosophers from the mid nineteenth century such as Gustav Fechner. This specific historical topic, the motif of the dynamic plant, shows the relevance of questions regarding life and ecology for a

rereading of German modernism, in addition to the relevance of a grounding in German language and literature for a historical understanding of how thinking about life changed in relation to media. In this sense, the dissertation contributes to growing interests in media and ecology, as well as the growing field of Ecocriticism in German studies and all literary studies.

Résumé

Cette thèse explore la représentation des plantes dans la littérature et le cinéma de langue allemande au début du XXe siècle. Par le biais de cinq études de cas, ce projet s'intéresse au motif de la "plante dynamique" dans la modernité allemande, une préoccupation bien répandue à cette époque. Mon projet soutient que ce regain d'intérêt pour le mouvement de la plante dans les domaines de la littérature et du cinéma est étroitement lié à deux grandes transformations culturelles interdépendantes qui ont contribué à changer la perception populaire de la nature, à savoir la transition qui a permis de passer d'une perception basée sur la taxonomie et les hiérarchies rigides, à une nouvelle se rapprochant désormais au domaine de la vie et dans laquelle les forces dynamiques rattachées aux plantes, aux animaux et aux humains y trouvent leur juste valeur. La première transformation, d'ordre intellectuel, était caractérisée par un mouvement réactionnaire s'opposant au matérialisme, au positivisme et aux explications mécanistes de la nature qui ont su alimenter un regain d'intérêt pour la philosophie romantique de la nature et le vitalisme. La seconde, étroitement liée à l'émergence des nouveaux médias, transforma la façon d'observer les plantes. Grâce à la chronophotographie, une technique photographique novatrice, il était désormais possible d'observer la croissance et le mouvement des plantes de façon accélérée, voire au même rythme que celui des animaux. Ces transformations ont eu pour effet de relancer le débat portant sur la hiérarchie divisant les êtres humains, les animaux et les plantes, tout en introduisant la perception d'instabilité et de fluidité au sein des catégories de l'être. Ce changement de perception des plantes a été accueilli de manière mitigée, entraînant avec lui une variété de réactions. Passant de la reconnaissance à l'anxiété dans l'histoire courte de Gustav Meyrink "Die Pflanzen des Doktor Cinderella"

(1905), dans les films *Nosferatu* (1921) et *Alraune* (1928), c'est avec grand enthousiasme que l'on s'intéressa à ce nouveau dynamisme et à la fluidité dans l'histoire courte "Flora Mohr : eine Glasblume - Novelle" (1909), par Paul Scheerbart et dans le « Kulturfilm », *Das Blumenwunder* (1926). Une analyse approfondie de ces films et de ces histoires courtes est appuyée par d'autres sources d'archives dans lesquelles on retrouve le motif dynamique des plantes, de même que dans les ouvrages scientifiques d'écrivains tels que Gustav Fechner, Maurice Maeterlinck et Raoul Heinrich Francé. Ce sujet historique spécifique, le motif de la plante dynamique, démontre la pertinence des questions reliées à la vie et à l'écologie dans le contexte d'une relecture du modernisme allemand. Par ailleurs, de même que l'importance de reconnaître le rôle historique qu'ont joué les médias dans la perception de la vie, autant dans la langue que dans la littérature allemande. En ce sens, la thèse a pour objectif de contribuer aux intérêts grandissants pour l'histoire de la pensée écologique et des médias, ainsi que le champs croissant de l'écocritique, autant en études allemandes que dans les autres les études littéraires.

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I was pleasantly surprised by the help and support I received from the archivists at both the Deutsche Kinemathek and the state film archive. At the Kinemathek, they went beyond my expectations to find the materials relating to my topic, allowing me to leaf

through material and old journals. At the Bundesarchiv, a few people were particularly generous with their time, including Roland Foitzik, Babette Heusterberg, Doris Eggert, and David Parret.

Numerous friends and colleagues have been supportive thorough my project and deserve my thanks. Michel Mallet assisted me with editing the French translation, and provided the occasional distraction. Mohammed Tikkah gave me his sympathetic ear. The regular meetings with Annika Orich, both a friend and colleague, have also been a valuable source of support.

I would like to dedicate this dissertation first to my young son, Oliver, who has given me a sense of the value of time as well as the drive to finish. The second dedication belongs to my husband and dearest friend, Oleshka, whose steadfast belief in my abilities, in addition to his stubborn insistence in the worth of my work, has kept me writing even when it was the last thing I wanted to do.

Preface

This dissertation is the original intellectual property of the author, Janet Janzen, and conforms to McGill's policy on intellectual property.

The following project examines the role of plants in early 20th century films and short stories, using five examples as case studies as representative but not exhaustive of larger trends in German language culture. Three of the examples, the short stories: Paul Scheerbart's "Flora Mohr: eine Glasblume-Novelle" and Gustav Meyrink's "Die Pflanzen des Doktor Cinderella," and the film *Das Blumenwunder* have received very little attention by scholars for various reasons. Part of the project is concerned with cultural archaeology and the way in which obscure texts become a catalyst for reexamining and adjusting the understanding of role of nature in the early twentieth century, and the way well-known and canonical texts have been read. Reexamining and reflecting on the role of nature belongs to a growing field of research within literary studies called ecocriticism. Questions concerning the definition of life and categorization of it form a part of ecocriticism but also drive recent theoretical work in Media studies, which begins to see media as life.

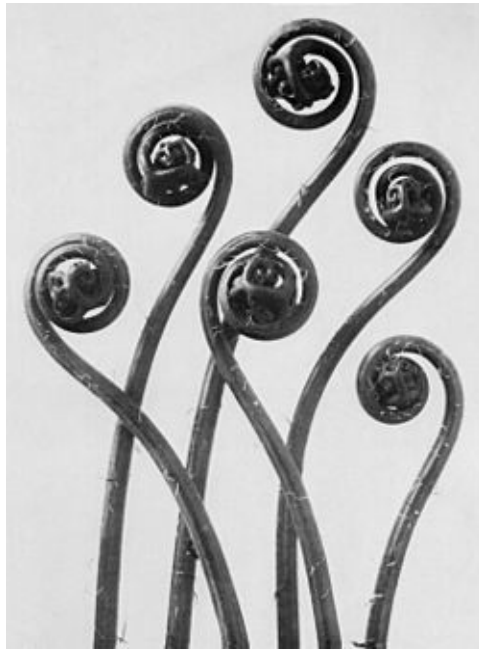


Fig. 1. *Adiantum pedatum*. *Frauhaarfern*. from Karl Blossfeldt. *Karl Blossfeldt: The Complete Published Work*. Köln: Taschen, 2008. 79.

Introduction

For the photographer and teacher, Karl Blossfeldt, the fascination with plants took precedence over the photography he used to reveal their minute plant details, previously ignored due to their size. While teaching at an arts and crafts school in Berlin from 1898 onwards, he collected and often photographed plants along country tracks or railway embankments, but never from a florist and rarely from botanical gardens. In 1928, Blossfeldt published his photographs of plants as a book called *Urformen der Kunst* (*Ur-Forms in Art*), which quickly became a bestseller, to be followed up by two subsequent volumes, *Wundergarten der Natur* (*Magic Garden of Nature*, 1932) and *Wunder in der Natur* (*Magic in Nature*, 1942). The stark black and white images were later polished and perfected in the studio with the intent to provide art students with models from living plants, so that they could practice drawing the organic flowing lines prominent in

Jugendstil (Art Nouveau). By the time the images had been published *Jugendstil* had fallen out of fashion, but the images hit a nerve. Their unsentimental aesthetic and seemingly unaltered lines tapped into a contemporary trend in the visual arts called *Neue Sachlichkeit* (New Objectivity) that favoured a type of realism unaffected by sentimentality or the artist's subjectivity. Far from merely illustrating the principles of *Neue Sachlichkeit*, the images were revelatory, inviting associations between art and nature, the cold eye of science and the belief in a dynamic force in nature. In a review of Blossfeldt's first book, Walter Benjamin links the images to architectural forms, to dancers and to feminine creativity.¹ The capacity of these photographs to unify disparate realms and to make the invisible visible speaks to an increasingly wide-reaching change in technology. This change in technology opened up micro worlds, the cosmos and movement to the benefit of both art and science. In his introduction to Blossfeldt's book, Karl Nierendorf makes exactly this point, describing technology as a shaping force for artists, which makes room for the possibility of new perspectives on nature (27).² While this dissertation does not include a

1 See Walter Benjamin, "Neues von Blumen," rev. of *Urformen der Kunst* by Karl Blossfeldt, (1928) *Gesammelte Schriften*, (Ed. Rolf Tiedemann, and Hermann Schweppenhäuser, Vol. 3, Frankfurt am Main: Suhrkamp, 1978, 151-53).

2 Nierendorf writes the following: "In Filmen erleben wir durch Zeitraffer und Zeitlupe das Auf- und Abschwellen, das Atmen und Wachstum der Pflanzen Das Mikroskop offenbart Weltsysteme im Wassertropfen, und die Instrumente der Sternwarte eröffnen die Unendlichkeiten des Alls. Die Technik ist es, die heute unsere Beziehungen zur Natur enger als je gestaltet und uns mit Hilfe ihrer Apparate Einblick in Welten schafft, die bisher unseren Sinnen verschlossen waren. Die Technik ist es auch, die uns neue Mittel zu künstlerischer Gestaltung an Hand gibt. Wenn für das Jahrhundert, dessen höchste Kunstleistung die Malerei war, das Wort Berechtigung hatte: »Die Schlachten des Geistes werden auf der Leinwand ausgefochten«, so sind die Kampfmittel jetzt Eisen, Beton, Stahl...Licht und Ätherwellen. Sowohl unsere Architektur, Ingenieurbauten, Autos, Flugzeuge wie Film, Radio, Photographie bergen phantastische Möglichkeiten hohen ästhetischen Ranges, und tausend Anzeichen beweisen, daß der so oft beklagte Sieg der Technik kein Sieg der Materie ist, sondern des schöpferischen Geistes, der sich nur in neuen Formen manifestiert." ("In films, we experience through time-lapse photography and slow motion the swelling up and down, the breathing and growth of plants. The microscope reveals a world of systems in drops of water, and the instruments of the sky open up the infinitude of space. The technology is what makes our relationship to nature closer than it ever was and opens a window for us into worlds, which were previously closed to our senses. The technology is also what gives us new means to form art. If the highest achievement in art for the century was painting, the phrase, 'The battle of the spirit is being fought out on the canvas,' is justified. Yet, the tools for battle are now iron, concrete, steel ... light and airwaves. Our architecture, engineered constructions, cars, planes as much as film, radio, photography

section on Karl Blossfeldt's photographs, his work is emblematic of the questions that drive this examination of the role of plants in literature and film during those early years of the twentieth century.

Plant movement surfaces repeatedly as a prominent theme in many of the stories and films included in this dissertation. It was precisely those advances in photography and film at the turn of the century that enabled plant movement to be seen and in so doing revolutionized the commonly accepted view of plants as immobile and non-sentient beings.³ Time-lapse photography sped up the movements of plants to the pace of animals and humans, revealing uncanny animal-like movements in plant growth. The use of time-lapse photography first appeared in early scientific studies of movement, but easily transitioned into mainstream culture as early as 1900, fuelled by a widespread interest in these entrancing images. The German science community's role in the popularization of these short time-lapse films is notable. According to Oliver Gaycken's "The Secret Life of Plants: Visualizing vegetative movement, 1880–1903" (2012), early German film pioneer Oskar Messter played a pivotal role in making these films accessible to the broader public. His films would not have been possible without Wilhelm Pfeffer's invention of a time-lapse camera and may not have achieved the same popularity without the widespread appeal of Charles Darwin's popular book on plant movement in the mid-nineteenth century.⁴ By the

are building up proof in a mountain of fantastical possibilities, heights of aesthetic ranges, and thousands of signs that the often bemoaned victory of technology is not a victory of material, but rather of the creative spirit that only manifests itself in new forms.”)

3 Wilhelm Pfeffer, a botanist and early filmmaker, believed that the slow pace of plant movement was responsible for the broader view of plants as, “starre und unempfindliche Wesen” (“fixed and non-sentient creatures”), but plants such as the *Mimosa pudica* that has a relatively quick reaction time as “fremd” (“strange”) (355). Pfeffer's interest in plant movement led to his development of an apparatus for time-lapse photography of plant movement and one of the earliest images of tulips growing from 1898.

4 An earlier study by Andreas Becker, *Perspektiven einer anderen Natur* (*Perspectives of An Other Nature*), also traces the progression of time-lapse photography from the natural sciences. As Becker outlines, initially, the filmmakers did not expect the films to draw an audience. Oskar Messter, a businessman and inventor expressed

1920s, nature films of moving plants were frequently being shown at film evenings or before main features in front of delighted audiences. The number of films devoted to showing plant movement and other sensational plants like the Venus flytrap is astounding, speaking to the popularity of these plant films. With our effortless access to images of even the most remote, minute and slow plants, we easily forget the novelty for early film audiences of seeing plants being animated and how those images helped to alter their perspective on nature.

New media such as film helped to fundamentally alter our relationship to nature as well as the way we qualify and categorize other beings. These early films seemed to reveal a previously unknown set of commonalities between people, animals and plants, which persisted in the subsequent nature films and in literary texts. One of the films, *Das Blumenwunder* (*The Miracle of Flowers*, 1926), included in this dissertation directly illustrates the effect time-lapse films had on the representation and understanding of plant life. The feature length film suggests through time-lapse images of growing plants that plants are alive like us, and then attempts to find a means of understanding plant life. But it would be incorrect to state that the view of plants as sentient and dynamic beings in the early 20th century was simply a product of new media. Rather, the time-lapse images helped to provide evidence for an existing conception of plant life that was already forming in the late 19th century in reaction to the proliferation of materialistic, positivistic and naturalistic tendencies. In a short story by Paul Scheerbarth, also discussed in a separate chapter, plants are represented as manifestations of nature's creative dynamic force as opposed to the reductionist perspective of materialism and naturalism. He derives this

his belief that his time-lapse films of flowers wilting and growing would only hold scientific interest. Much to his surprise, an early showing found a large audience (110).

perspective on plants from Romanticism, and the Vitalist currents of science and philosophy that grew out of Romanticism in the 19th century.

The capacity to see plant movement did not always lead to a shift in the perception of plants. Rather, alongside the positive and even utopian reception of the new understanding of plant life as mobile and sentient beings, a more conservative perspective persists. It maintains the definitions and distinctions of categories of being as well as an instrumental view of nature, the belief that the purpose of plants is to be eaten and enjoyed by humans. From this point of view, plants that appeared to pose a challenge to traditional distinctions of living beings, such as *Mimosa pudica* (which reacted instantly to contact) or the flesh-eating Venus flytrap, took on a particularly charged status as monstrous anomalies of nature. Films like *Nosferatu* and *Alraune*, and short stories like Gustav Meyrink's "Die Pflanzen des Doktor Cinderella" ("The Plants of Dr. Cinderella") associate such plants (i.e. Venus flytrap) with characters in the position of the radically other. In so doing, they reveal such conservative tendencies as social anxieties. The manner in which plants are used as a model for an upheaval in social hierarchies, as well as a reflection on how the short story and the two films reinforce or criticize this instrumentalization of plants, will be the focus of the last two chapters.

Within the selection of texts I chose for this dissertation, there is an old divide between those that welcome commonalities between plants, animals and people and those that do not. The plant's apparent lack of movement and sentience allowed for many philosophers and botanists since ancient Greece to argue that they represented a form of life categorically inferior to animals and humans, giving way to a persisting anthropocentric and zoocentric perspective. As Matthew Hall argues in his recent

philosophical examination of the perception and role of plants, *Plants as Persons* (2011), plants are often placed below humans and animals in a hierarchy of being because of their position as radically other. Their multivariate form, immobility, the missing nervous system and the lack of an apparent seat of the human mind (the brain) have been used to focus on differences rather than affinities between humans and plants and to absolve any moral qualms that would come from the necessary killing of plants for food. Instead of attempting to perceive the plant on its own terms, plants are viewed instrumentally, as existing for the purpose of serving the needs of humans. In literary and visual texts, the instrumental perspective of plants is apparent in their function in the narrative as symbols for human experience rather than for nature.

Matthew Hall's book belongs to a recent trend in scholarship and mainstream journalism that seeks to examine and reconfigure our perception and relationship to plants.⁵ Like Hall, Elaine Miller writes from within the philosophical tradition, but instead of attempting to give plants personhood, she is working within the human hierarchy using plants to propose an alternative feminine subjectivity and society. Her book, *The Vegetative Soul: From the Philosophy of Nature to Subjectivity in the Feminine* (2002), draws on the German philosophical tradition, from Immanuel Kant to Johann Wolfgang von Goethe, Friedrich Hölderlin and Friedrich Nietzsche, to lay out an alternative plant subjectivity as a model for human subjectivity. The vegetative soul, as she calls it, emphasizes interdependence and metamorphosis over a human subjectivity's focus on individuation and atomism. While she does not attempt to understand a plant on its own terms, her approach

5 For other scholars and works not discussed here, see Michael Marder, *Plant-Thinking: A Philosophy of Vegetal Life* (New York: Columbia University Press, 2013); Randy Laist ed., *Plants and Literature: Essays in Critical Plant Studies*, (Amsterdam: Rodopi, 2013); D J Beerling, *The Emerald Planet: How Plants Changed Earth's History* (Oxford: Oxford University Press, 2007); and Daniel Chamovitz, *What a Plant Knows: A Field Guide to the Sense*, (New York: Scientific American/Farrar, Straus and Giroux, 2012)

implicitly values the plant mode of being as an answer to the inequality in the hierarchy of being perpetrated by the anthropocentric and zoocentric world views. Miller ends with a discussion of Luce Irigaray's use of plant imagery to open up the possibility of a “plant-like” reading of texts as fluid entities. In Miller's text as in Hall's and in the short stories and films that are discussed in this dissertation, the perspective of plants as dynamic entities either proves to be the hinge that opens up an alternative social structure and mode of being or it reveals the anxieties associated with its radical character.

The unusual prose and method of another philosopher, Michel Serres, seems to exemplify a plant-like cultural interpretation as set out by Michael Hall. Michel Serres' book, *The Natural Contract* (1995), has in common with Michael Hall's *Plants as Persons* the conviction that considering the natural world as a person would bring about change in our relationship with “her.” Instead of focussing his argument on plants as Hall does, Serres suggests that nature's perspective should be considered when rethinking the social contract. His book proposes that we are no longer in a position to consider nature merely as a threat to our survival or as an object to be dominated but should treat nature rather as an equal partner. As he argues, the threat of global warming is in effect the voice of nature demanding a part in the renegotiation as well as recognition of the often-overlooked connection between humans and the environment. He describes the connection in terms of the familiar metaphor of mother nature: “In arm wrestling, with an umbilical cord, in the sexual bond? All that and more. The cords that tie us together form, in all, a third kind of world: they are nutritive, material, scientific and technological, informational, aesthetic, religious. Equipotent to the Earth, we have become its biplanet, and it likewise becoming our biplanet both bound by an entire planet of relations” (110). Serres concludes by

challenging our capacity to raise the status of the Earth to equal partners: “Would I acknowledge her as my mother, my daughter, and my lover together? Should I let her sign?”(124).

Within pop culture, numerous films and books have surfaced asking if plants have intelligence. Michael Pollen's book, *The Botany of Desire* (2001), takes the position that plants have agency and manipulate human desires to propagate their species, spreading across the Earth. He focuses on four plants, which he views as manipulating four human desires: tulips for beauty, marijuana for pleasure, potatoes for sustenance and apples for sweetness. His inversion of the perspective of plants as passive and subject to our manipulations has gained a great deal of attention, so much so that PBS found reason to release a documentary based on his ideas under the same title. The popularity of Pollan's ideas is partly due to his unusual stance on the plant-human relationship and the sensationalism that often accompanies any discussion of human desire. However, Pollan does tap into the persisting perception of plants as immobile and passive, and the crux of his argument rests on seeing plants as mobile and active.

New discoveries in the natural sciences that highlight plant mobility and sentience have also made their way into the mainstream media. One example comes from a Canadian documentary, “Smart Plants: Uncovering the Secret World of Plant Behaviour,” produced as a part of David Suzuki's series, *The Nature of Things*. The show takes a look at recent discoveries from biology in the field of plant behaviour, drawing a comparison between the foraging behaviour of animals and the seeking behaviour of roots. Plant sentience, the ability to sense environment and react to it, is another major focus of the documentary, illustrated through the example of the reaction of grass to being cut by a lawnmower. In

response to being cut, the grass releases a chemical that attracts predatory insects like mosquitoes and, with luck, drives away whatever is damaging the grass. David Suzuki's film belongs to a recent renewed interest in plant intelligence in television and film. In all of these films and books,⁶ new interpretations of the growth of plants as well as new evidence on a molecular level from the field of biology gives, at the very least, cause to re-evaluate our relationship to plants as well as our preconceived ideas of the life of a plant.

Examining how the relationship of plants and humans has been represented in modern literature and film has the potential to contribute to a larger field of study concerned with our impact on the environment, which has become more urgent in recent years as evidence mounts on the side of global warming. While environmentalism in literature is not a focus of this dissertation, inevitably the theme of human destruction of plants crops up when looking at representations of plants in film and literary texts. As the recent interest in the relationship of plants and humans shows, understanding the cultural significance of plant representations reveals underlying assumptions that drive our behaviour in relation to plants. The films and short stories discussed in this dissertation reveal our complex relationship to plants. On the one hand, there is a desire to have a relationship to nature based on mutual creativity, dynamism, and communication. On the other hand, plants are used as metaphors for anxieties about gender, nationality, categories of being and innovations in science, anxieties that reveal resistance to change and fluid identities. Innovations that changed the way we see and our relationship to nature are in part responsible for reviving an old debate between a static and rigidly differentiated world on the one hand and a dynamic and intermingled world on the other.

⁶ Other films include: the PBS documentary, *The Plant* (1994); the BBC documentary series *The Private Life of Plants* (1995) and *Kingdom of Plants* (2012) just to name a few.

The debate concerning the sentience of plants can be traced back to the differing perspectives of Aristotle and his pupil Theophrastus. Aristotle attributed a limited awareness to plants in compared to capacities he attributed to animals and humans. Plants, according to Aristotle, possess the most inferior degree of soul, the “nutritive” soul, while animals have both the “nutritive” and “perceptive” soul, and humans have all three, the last being the “rational” soul. Plants' interaction with the world was limited to seeking nutrients placing them below animals and humans in this early hierarchy of being. Aristotle's pupil Theophrastus, who wrote more extensively on plants than his teacher, came to some radically different conclusions.

From the fragments of his work and what has been quoted by others, it appears that Theophrastus not only believed that plants were sentient beings, capable of responding to their environment, but he also placed plants on par with humans and other animals. While Theophrastus' work on the medicinal properties of plants did enjoy some popularity in Medieval times, his views on plant sentience have been marginalized by modern society, while Aristotle's perspective continues to influence philosophy and mainstream culture. Even after the Enlightenment, however, Aristotle's ontology of life-forms did not go unchallenged.

In German culture, one of the more significant challenges to Aristotle's view of plants came from Johann Wolfgang von Goethe's exploration of plant life. Goethe developed the idea of a plant subjectivity from his empathetic observations of plant life. Goethe's method of observation inherently prevents the view that plants exist solely for the purpose of human use by attempting to understand plants from within. He did recognize that any understanding of nature would be shaped by the person observing, yet still

believed that it was possible to think “objectively.” Objective here does not refer to the current sense of the word – meaning free from subjective interventions between nature and representation (Daston, *The Image of Objectivity*, 82) – but rather to the attempt to combine observation with an awareness of the theory that colours all scientists' conclusions and be, therefore, suitably cautious.⁷ This method of observation would enable a move from observation to “higher principles of connection” and lead to a “kind of cognition that might constitute an adequate idea and ultimately an intuition into the whole [...]” (Richards 439). As Miller has shown, Goethe came to the conclusion through his objective method that plants and nature as a whole can be understood in terms of rhythm, which consists of contraction, expansion, and intensification (29).⁸ Goethe called the three forces combined metamorphosis.

For Goethe, plants illustrate metamorphosis in nature with great clarity. This is what he meant by the famous statement “Alles ist Blatt!” (“Everything is Leaf”). Every part of the plant, as he considers, either turns into leaf or has just transformed out of leaf, which occurs through contraction, expansion or intensification. Plants are, according to Goethe, in constant movement and are virtually indistinguishable from their offspring, which prevents them from being considered solely in terms of their form and as individuals. Such individuation was precisely the mistake Goethe found in Linnaeus' taxonomic system of classification. The differing approaches of Linnaeus and Goethe to the study of plants illustrate a divide in the botanical sciences throughout the 19th century. Goethe's perception of plants as plural and dynamic, and his method of observation, initiated the

7 See also Lorraine Daston and Peter Gaston, *Objectivity*, (New York: Zone Books, 2007), for a thorough examination of the historical shifts in meaning of the term “objective.”

8 Elaine Miller argues that Goethe is referring to the Greek meaning of rhythm, when he describes plant movement as such (29). Rhythm in this sense means an instance of flow (ῥέω).

concept of the vegetative soul in the tradition of German letters and philosophy (Miller).

The Goethean perception of plants as a system of dynamic forces influenced an entire generation of romantic writers including Friedrich von Hardenberg (Novalis), Friedrich Hölderlin, Friedrich Wilhelm Schelling, Friedrich Schlegel,⁹ and August Schlegel among others, many of whom applied the plant model to human subjectivity. Briefly and by no means comprehensively, these writers and philosophers believed that knowledge of nature was necessary for knowledge of the self and often incorporated their knowledge of botany and other sciences into their writing. They were reacting to the vocabulary and ideas of the previous generation by moving away from the perception of nature as a series of discrete and classifiable objects to a view of nature as a process. This concept of nature helped to shape a shift during 19th century in the perception of nature to that of a dynamic process. Certainly, Schelling's choice of words readily leads to this interpretation, describing nature as “active” (8), “always changeable” and in “continuous evolution” (12).¹⁰

This dynamic view of nature appears in the use of plant metaphors by many romantic writers. The plant captures the entanglement between the person and the environment in the close relationship between two life forces working on the plant, the open-ended growth from within and the nourishment from the environment. In her interpretation of Friedrich Hölderlin's *Hyperion*, Elaine Miller sees “the metamorphosis of plants as a figuration of human life itself” (66). *Hyperion's* development follows the

9 Friedrich Schlegel's *Lucinde* (1799) justifies the need for idleness to create art and obtain knowledge through a comparison with the passivity of the plants and its place as the most beautiful and cultivated forms in nature. The most accomplished life is called “ein reines Vegetieren” (“a pure vegetating,” 47)

10 Schelling's descriptions of nature as dynamic were taken from *Erster Entwurf eines Systems der Naturphilosophie*: “Wir kennen die Natur nur als *thätig*” (8). “...kein permanentes Daseyn” (12). “... jedes Product, das jetzt in der Natur *fixiert* erscheint, würde nur einen Moment existiren, und in continuirlicher Evolution begriffen, stets wandelbar, nur erscheinend vorüberschwinden.” (12)

rhythm of contraction and expansion towards a final completion that will never be realized. Key to Miller's interpretation is that the subject can never go back to same person it was before.

After the brief flowering of romanticism in the early 19th century, the ideas of Goethe and his disciples were marginalized by the rationalist science of the industrial era. Scientists like Gustav Fechner were the exception.¹¹ Fechner found himself asking philosophical questions about the nature of plant life after experiencing a devastating health issue (Heidelberger 54). Inspired by Goethe as well as his own experience with extraordinary plants such as the *Mimosa pudica*, Fechner argued for plant sentience in his book on plants, *Nanna oder Über die Intelligenz der Pflanze* (*Nanna, or Concerning the Intelligence of the Plant*, 1848). He challenged the view that plants are passive, receptive and immobile, and questioned the taxonomies that distinguish lower level animals from higher level plants. Fechner confronts the two main objections to plant sentience, the lack of a brain as a seat for the mind and the difficulty in ascertaining any level of intentional movement similar to humans and animals. With plants such as the *Mimosa pudica* that visibly respond to their environment, it is easy for Fechner to conclude that plants have a sensory-rich inner life formed by their relationship to their environment and their own purpose (201).¹² In an insight later echoed by Michael Hall, Fechner sees the last barriers to

11 In his book on Gustav Fechner, Michael Heidelberger details the across-the-board rejection Gustav Fechner experienced from the scientific community in response to his idea of plant and cosmic souls. The same rejection was matched by acceptance by women readers. Just after *Nanna* was published, one of Fechner's readers sent him a crooked carrot in the mail as a token of her appreciation of his ideas. The carrot came to represent for him the reception of his work (57).

12 In Fechner's words: "Denn das größte Wunder der Natur liegt doch darin, daß jedes ihrer Wesen in jedem Bezirke, indem es ganz für andere Wesen gemacht erscheint, zugleich ganz auf eigne Zwecke gestellt bleibt, eins immer dem andern dient, nach andrer Beziehung nur, als Andres ihm wieder dient; und Alles dabei so abgewogen in einander greift, daß das Ganze haltbar und lebendig besteht" ("For the biggest miracle of nature can be seen in the fact that everyone of her creatures in every area remains at the same time focussed on its own purpose even though it appears made for another – one always serves another while in another relationship

recognizing a plant's intelligence as lying not in the plant world but with ourselves. Believing that a plant could be a sentient being, which is trampled underfoot and lives to serve the plates and needs of beings higher on the food chain, offends the humane person's sensibilities.

By reframing plants as sentient beings, it follows that Fechner would question the authority of the botanical taxonomy and the corresponding hierarchy of being that places all plants below even the most simple of animals. According to Fechner, the taxonomy creates an artificial hierarchy of being that does not fully correlate to the level of complexity of plants and various animals. That taxonomy differentiates higher plant forms from lower animal forms – for example the *Adansonia digitata* tree (*Affenbrotbaum*), which can live as long as a thousand years, is placed below simple animals like the hydra with its branch-like appearance, and microorganisms (*Infusionstierchen*) (252). However, even as the complexity of the *Adansonia* tree fascinates Fechner and causes him to question our understanding of the hierarchy of being, he refrains from eliminating the hierarchy of being completely, as is clear from his comparison of plants with women and children.¹³ Fechner

another one serves always him, and because of that everything is so intertwined with another that the whole is lasting and lively”) (201).

- 13 His comparison of women, children and plants tells a great deal of the assumed role of women and children in the mid-nineteenth century in addition to the hierarchy of men over women and children: “Die Pflanze bleibt, wie das Weib dem Manne, immer dem Willen des Thieres unterthan, kommt ihm aber selbst im schönsten Verhältnis, wie es der Schmetterling zur Blume zeigt, nicht entgegen. Sie plaudert gern duftend mit ihren Nachbarinnen. Sie sorgt für die Nahrung des Thieres, bäckt Brod (in den Aehren), bereitet Gemüse für dasselbe. Ihr liebstes Geschäft aber bleibt bis zur Blütezeit ihres Lebens, sich schön zu schmücken und ihrer Gestalt immer neu und schön darzustellen” (“The plant remains always subordinate to the will of the animal like the woman to the man. This fact does not contradict the beautiful relationship they have, for example the butterfly and the flower. They like to chat with their neighbours, take care of the nourishment of the animals, bake bread (in the air), prepare vegetables for the same. Their favourite business remains, however, at the flowering of their life, to make themselves up beautifully and to display their shape in constantly new and beautiful ways”) (349). “[...] daß die Frauen selbst doch immer nur Kinder gegen die Männer bleiben” (“[...] that the women themselves remain only children in comparison to men”) (347). “Die Vergleichspuncte der Blumen mit Kindern liegen darin, daß sie, die Erde als ihre gemeinschaftliche Mutter betrachtet, noch an ihr hängen, aus ihr die Nahrung saugen; daß sie sich alle Bedürfnisse zubringen lassen; nicht in's Weite laufen; daß sie lieblich, freundlich, unschuldig aussehen; niemand etwas zu Leide thun; helle Kleider anhaben, und, wie wir meinen, mit ihrer Seele noch eben so im Sinnlichen befangen sind, als es die Kinderseele

places plants underneath animals, bound to the will of animals, like women and children are bound to men, very much in line with the understanding of the role and capacity of women and children in the Biedermeier culture of his day. The plant soul remains in the developmental stage of children, caught up in their sensuous nature and in a relationship with mother earth as children are to their mothers. Fechner's most radical idea appears still to be his argument for a plant soul, which in his later work *Zend Avesta* comes to encompass the whole of nature in his concept of a cosmic soul.¹⁴

Fifty years after *Nanna* had first been published, Fechner's philosophical world view begins to find the respect and acclaim missing at the time. His ideas resonated with writers who were reacting to the representation of the natural world by proponents of naturalism and materialism by seeking out an alternative to analytic taxonomies. They found this alternative in Fechner's concept of a plant subjectivity, dynamic and interdependent. As the introduction to the second edition of *Nanna* in 1908, written by the science fiction writer Kurd Laßwitz, attests, the world was now ready for Fechner's view of nature as a conscious entity (IV 1908):

But a philosopher took up the thought [of a plant soul] and examined with care, whether there is some truth to the fairy tale. Whoever would like to know more, should read this book about the soul life of plants, which a fine and sharp spirit wrote and published for the first time in 1848. At that time, many in the educated

ist" ("The points of comparison of the flowers with children can be observed in their relationship to the Earth as their common mother. They are still connected to her, suck nourishment from her; all needs are being taken care of by her. They don't run free in the broad expanse. The plants appear sweet, friendly, innocent; never do anyone harm, wear bright clothes, and, in our opinion, are caught in the sensory world with their soul as if it were a child's soul," 347).

- 14 In the introduction to *Zend-Avesta*, Fechner lists *Nanna* as the precursor to this book: "Eine frühere Schrift, *Nanna*, kann insofern als Vorläuferin der jetzigen gelten, als dort wie hier versucht wird, das Gebiet der individuellen Beseelung über die gewöhnlich angenommenen Grenzen hinaus zu erweitern; dort aber in abwärts gehender, hier in aufwärts gehender Richtung" ("An earlier text, *Nanna*, can be considered the predecessor to this one, since here as much as there an attempt is being made to expand the usual assumed borders of the area of the individual ensoulment – there in a downward progression and here in an upwards direction," IV).

public shook their heads over it, and fifty years is a long time to wait for a second printing. But the fact that a new edition is at all necessary after fifty years is a good sign that it was a good book – a book that has lasting meaning in and of itself as much as because of its writer. And now, when it is being read in constantly new editions, those in the educated public are not dismissing it as much as before. For the times have changed. (IV)¹⁵

Fechner's cosmology in particular spoke to Laßwitz's contemporary Paul Scheerbart, whose fiction and many articles were often inspired and influenced by Fechner's cosmology and vision of a plant soul. As will be discussed in the first chapter of this dissertation, the natural world and particularly plants were represented in Scheerbart's short story, "Flora Mohr," as dynamic entities growing and changing and in close relationship with the cosmos – ideas that came from Fechner and also in part from Goethe. Another factor may have influenced the reception of Fechner's ideas just fifty years later, when Scheerbart was writing. Advances in film along with time-lapse photography played a large role in contributing to the visibility and believability of organic and inorganic nature in motion.

Scheerbart and Laßwitz were not alone in their attraction to Fechner's dynamic vision of the universe at the turn of the century. I would like to highlight the work of two authors, the symbolist writer Maurice Maeterlinck and the naturalist Raoul Heinrich Francé, to illustrate the influence of Fechner's interpretation of plant movement at the turn of the century.¹⁶ The first of the two, Maurice Maeterlinck, emphasizes the connection

15 "Aber ein Philosoph hat den Gedanken aufgegriffen und mit Sorgfalt untersucht, wie viel hinter dem Märchen Wahrheit stecke. Wer es genauer wissen will, der lese dieses Buch vom Seelenleben der Pflanze, das ein feiner und scharfer Geist schuf und im Jahre 1848 zum ersten Male herausgab. Man hat damals in der gelehrten Welt viel den Kopf darüber geschüttelt, und fünfzig Jahre bis zur zweiten Auflage ist eine lange Zeit. Aber daß überhaupt nach fünfzig Jahren eine neue Auflage nötig wurde, das ist ein sicheres Zeichen, daß es ein gutes Buch war, ein Buch, das eine Bedeutung hat für Dauer, sowohl durch sich selbst wie durch seinen Verfasser. Und wenn es jetzt in immer neuen Auflagen wieder gelesen wird, so ist auch des Kopfschüttelns in der gelehrten Welt viel weniger geworden. Denn die Zeiten haben sich geändert."

16 Others interested in plant intelligence and Fechner from the turn of the twentieth century include: Heino Hayungs' *Die Lehre von der Beseeltheit der Pflanze von Fechner bis zur Gegenwart* (1912), whose dissertation

between movement and a kind of plant intelligence in two botanical essays, “The Intelligence of Flowers” and “Scent,” both published in 1907. While he is largely known for his symbolist plays, the two essays showcase his considerable knowledge of botany. Drawing from examples in the natural world, Maeterlinck argues in poetic prose that a plant's destiny, to be rooted in one spot and apparently immobile, is overcome by inventive movement that reveals its intent and initiative. In his words, a “revolt against destiny” is hiding underneath the plant's apparent passivity (2). These conclusions are catalyzed by Maeterlinck's own observations of a hundred year old laurel tree's compensation for a precarious position on a cliff face. By bending its trunk as it grows and later reinforcing its position with two roots at a particularly appropriate moment, the distressed tree appears to foresee a fall to its demise and plan to prevent it. In a caveat to his interpretation of plant behaviour, Maeterlinck also wonders if the tree is saved by mere coincidence (Maeterlinck 9).¹⁷ On a more fundamental level, movement also surfaces in Maeterlinck's descriptions of the reproductive process as integral to a plant's success. His descriptions of plant reproduction are filled with a language of motion, using words like “scattering,” “propulsion,” and “aviation” (4). The picture of dynamic nature in Maeterlinck's nature writings is all the more meaningful when viewed as a part of his project to communicate the latest research in botany to the public. It would seem from the affinity of Maeterlinck's ideas with Fechner's that Fechner's insights into plant movement are beginning to gain

focussed specifically on soul and plants; Erich Becker's *Deutsche Philosophen: Lebensgang u. Lehrgebäude von Kant, Schelling, Fechner, Lotze, Lange, Erdmann, Mach, Stumpf, Bäumker, Eucken, Siegfried Becher* (1929), and Herbert Brunzlow's *Über die Anwendung psychologischer Kategorien auf Pflanzen bei Fechner und Francé: eine historisch-logische Studie* (1920).

- 17 Here is Maeterlinck's complete description of the tree that also includes a reference to the relative slowness of plant movement: “Then, obeying goodness knows what order of the instinct, two solid roots, two hair cables, emerging from the trunk at more than two feet above the bend, came to moor it to the granite face. Had they truly been brought forth by distress, or else had they been waiting, perhaps with foresight, since the first days, for the critical hour of danger in order to enhance the value of their assistance? Or was it just a happy coincidence? What human eye will ever capture these silent dramas, too long-lasting for our brief lives?” (Maeterlinck 9)

acceptance under the influence of a world that has suddenly become animated.

A push to accept plants as dynamic and sentient can also be found in Raoul Heinrich Francé's many writings.¹⁸ Like Fechner and Maeterlinck, Francé was preoccupied with the idea of a plant intelligence comparable to that of animals and visible through movement. In his book, *Das Sinnesleben der Pflanze (The Germ of Mind in Plants)* (1905), published just two years before Maeterlinck's essay from 1907, Francé lays out his objections to a mechanized view of life while simultaneously arguing for an animated nature. For Francé, the key to understanding human origins, our place in the world and our psyche could be found in understanding plants as dynamic, living beings, which participate in relationships with others in their environment through movement.¹⁹ The following quote from *Das Sinnesleben der Pflanze* is typical of his work and the themes he addresses but also reveals his shared concerns with writers and filmmakers of the 1920s and 30s:

But the plant also moves its whole body so freely, easily and gracefully as the most skillful animal – only slower. The roots burrow searchingly in the earth. The buds and shoots complete measured circles. The leaves and blossoms nod and shiver by changes. The vines circle searchingly and reach with a ghostly arm into the surroundings. But the superficial person goes by and considers the plant to be fixed and lifeless, because he does not take the time to dwell for an hour at its side. The

18 Raoul Francé's writings are numerous and include other books which discuss plants as sentient beings: *Pflanzenpsychologie als Arbeitshypothese der Pflanzenphysiologie (Plant Psychology as a Working Hypothesis of the Plant Physiology)*, 1909), *Die Pflanze als Erfinder (The Plant as Inventor)*, 1920), and *Das Liebesleben der Pflanzen (The Love Life of Plants)*, 1919). Writing slightly before Francé, Wilhelm Bölsche was also a great popularizer of scientific themes. He is most famous for his seminal essay "Die Naturwissenschaftlichen Grundlagen der Poesie" (The Scientific Basis for Poetry," 1887), yet it is his popular science treatise on origins of love *Das Liebesleben in der Natur (Love Life in Nature)*, 1896) that bears some resemblance to Francé book on the love life of plants.

19 Francé explicitly compares humans and plants: "Es ist etwas Ähnliches in den Pflanzen wie in unserer eigenen Brust" ("There is something similar in plants as in our own chest," 10). Due to the similarities, he draws the conclusion that we can learn about ourselves through learning about plants: "Vorbei war die Zeit der geistlosen Blatt- und Blütenbeschreibungen, ein neues Leben war auch in der Botanik erwachsen und in der letzten Generation wurde sie etwas ganz anderes, eine Fortsetzung oder wenn man will, der Anfang der Erkenntnis von der wahren Natur des Menschen" ("The times of the spiritless descriptions of leaves and blossoms are gone. A new life is also arising in botany and in the last generation, it is becoming something completely different – a continuation or in other words – the start to a new knowledge of the true nature of humans," 11).

plant has the time – that's why it doesn't hurry. For the giants in Flora's realm live through centuries and see at their feet the countless generations of people living and dying. (14).²⁰

Movement permeates Francé's description of the plant linking rather than distinguishing it from animals and humans. The words he chooses describe plant movement as gestures, implicitly suggesting that plants communicate and interact with their environment in a manner similar to animals and humans. Plants only appear to be immobile and unaware of their environment from the slow pace of their movements, making their time relatively drawn out in comparison to humans.

Films of plants in time-lapse address this discrepancy in pace between humans and plants, which leads to misconceptions on the nature of plant life and their mobility. Films were particularly appropriate for illustrating Francé's animated plant world, a point acknowledged by Francé and by a film adaptation of this book (86).²¹ If Francé is asking here that plants be seen as dynamic, sentient beings, he is also attempting to revise the relationship between plants and humans to a more egalitarian one.

Another theme – or in this case controversy – common to many of the texts discussed in this dissertation is visible in Francé's writings as a debate between taxonomy and ecology. At the time of Francé's writing, ecology was a new term coined by Ernst Haeckel.²² Even so, the word describes Francé's attempt to understand the natural world as

20 “Aber die Pflanze bewegt auch ihren ganzen Körper so frei und leicht und graziös wie das geschickteste Tier – nur viel langsamer. Die Wurzeln wühlen suchend im Erdreich, die Knospen und Sprosse vollführen gemessene Kreise, die Blätter und Blüten nicken und schauen bei Veränderungen, die Ranken kreisen suchend und langen mit gespenstigem Arm nach der Umgebung – aber die oberflächliche Mensch geht vorbei und hält die Pflanze für starr und leblos, weil er sich nicht die Zeit nimmt, eine Stunde lang bei ihr zu weilen. Die Pflanze aber hat Zeit, darum eilt sie nicht; denn die Riesen in Floras Reich leben durch die Jahrtausende und sehen zu ihren Füßen ungezählte Generationen von Menschen aufleben und vergehen.”

21 One of Francé's books *Das Sinnesleben der Pflanzen* (1905) was adapted to film more than 30 years later by a prolific director of nature films and a botanist, Dr. Ulrich Schulz.

22 In his text from 1866, *Generelle Morphologie der Organismen*, Haeckel defined Ökologie as follows: “Unter Oecologie verstehen wir die gesammte Wissenschaft von den Beziehungen des Organismus zur umgebenden

a set of relationships composed of many elements from the microscopic to the very slow. The invisibility of these elements required many different forms of vision afforded by the powerful magnifying lens or by the ability of the time-lapse camera to speed up the imperceptible movements of a plant. Even though Ernst Haeckel favoured the artist's pen over the camera for reasons that echoed Goethe's method of observation, technology was what opened up for him the possibility of seeing a dynamic and interrelated nature. Seeing the whole of nature contrasts with the tradition of specimen collecting once practised in Botany. Francé places his view of the natural world in stark contrast to the botanists who persist in atomizing life into a classification system according to the principles of Linnaeus. The view of nature produced by the taxonomists resembles more a crypt than living nature in Francé's adamant words:

Wherever he went the laughing brook died, the glory of the flowers withered, the grace and joy of our meadows was transformed into withered corpses, which this 'true botanist' collected into the folios of his herbarium, and whose crushed and discoloured bodies he described in a thousand minute Latin terms. This was called scientific botany, and the more mummies such a register of the dead could bury in his museum the greater botanist he was held to be. (13)

Couched in the opposition between taxonomy and Francé's form of ecology is another opposition between materialism and an ensouled natural world. Elsewhere, Francé decries the limited view of Materialism traces of which can be seen in his critique of the objectified nature quoted above. In contrast to the analytic view of nature and Materialism, Francé advocates an objective *experience* of nature in the original sense of the word. His

Aussenwelt, wohin wir im weiteren Sinne alle 'Existenz-Bedingungen' rechnen können. Diese sind theils organischer, theils anorganischer Natur; sowohl diese als jene sind, wie wir vorher gezeigt haben, von der grössten Bedeutung für die Form der Organismen, weil sie dieselbe zwingen, sich ihnen anzupassen“ (“By ecology, we mean the entire system of connections of the organism to the surrounding environment, to the point, where we can count in the broadest sense all conditions of existence. These are partly organic and partly inorganic nature, as much those are of the greatest meaning for the form of the organism as we have shown before, because they are the same that force them to adapt,” 286).

method of getting to know plants involves venturing into nature, the forests and meadows, listening to those who interact with this world, and observing plants in their usual dynamic environments. Such an approach considers plants and others in the natural world as an interactive system of sentient beings with which humans can communicate in the broadest sense of the word.

The writings of naturalist Francé and writer Maeterlinck illustrate one of the circulating perspectives on plant-life at the beginning of the twentieth century. The opposing perspective prefers to view plants as static. From the latter point of view, any evidence of a dynamic plant life serves as a metaphor for a threat to the self and to identity. In this dissertation, I consider these two perspectives in two successive sections containing two chapters each, focussing respectively on film and literature. The first two chapters examine the affirmative and even utopian reception of plant life around 1900 through two examples, Scheerbart's short story "Flora Mohr" (1909) and the *Kulturfilm*, *Das Blumenwunder* (1926). The last two chapters examine examples of an anxiety-filled response to encounters with dynamic plants. Meyrink's short story, "Die Pflanzen des Doktor Cinderella" (1905) is the central example of the third chapter. The expressionist films, *Nosferatu* (1921) and *Alraune* (1928), round off the last chapter.

The first chapter begins the dissertation with a literary example of dynamic plants from Paul Scheerbart's short story "Flora Mohr: eine Glasblumen-Novelle" (1909), in which the artist William Weller displays his marvellous artificial gardens of moving glass plants and lights. I argue that Weller's artificial glass plants have a twofold function in the short story as an illustration of Paul Scheerbart's aesthetics of the fantastic and as a representation of nature's dynamic force. The intent of William Weller's aesthetic program

is to create original glass plants that seem alive, and yet, do not adhere to the established aesthetic conventions that connect lifelike art with realism. In this way, Weller's aesthetics are positioned as a reaction to the aesthetic demands of naturalism and impressionism, popular during the late nineteenth century. Yet, hidden within Weller's originality lies a form of imitation. In his attempt to give the flowers life through light, the material glass, and a mechanical apparatus that moves the flowers, the protagonist recreates the dynamic force of nature and illustrates a reoccurring argument for plant sentience – their ability to move and react to their environment. The emphasis on the dynamic quality of the glass flowers and also their inner glow, visible in the glass medium, points to a perspective of nature built upon process rather than taxonomic classification. Scheerbart's short story takes part in a revival of romanticism and provides an alternative perspective of plants from that of 19th century botanical sciences. Scheerbart's fantastical and dynamic glass plants form a part of his greater vision for revitalizing living spaces and consequently the human spirit, which he founds on the belief of a world permeated with spirit. My interpretation of his model of plant life relies on a close reading of this short story, combined with Scheerbart's many published articles as well as the theoretical texts written by the Romantics and other such proponents of the alternate botany.

The second chapter continues the thread of the first chapter, moving to representations of plants as sentient and dynamic in film. Focusing on the 1926 *Kulturfilm, Das Blumenwunder* (1926), which compared plant movement shown in time-lapse to the movements of modern dancers, the chapter interprets the mimetic interplay between the dancers and the plants as a moment of learning and communication. The film collapses the portrayal of plants as dynamic living entities from many early nature films into a feature

length celebration of movement. In so doing, it reflects on the relatively new capacity of film to accelerate movement in nature through time-lapse photography as a way of making visible the dynamic force of plants. This visualization of movement through the medium of accelerated film is framed as proof of life in plants and as a means of gaining access to plant subjectivity. In addition to this evidence of plant life, the film attempts to become an opportunity for learning about the plant subjectivity by seeing the plants move and by developing a form of embodied communication with plants through dance. Simplifying the movement of plants into coded gestures opens up a means for understanding and communicating a plant subjectivity. *Das Blumenwunder* demonstrates a “plant language” through movement and then calls upon its viewers to interact with plants by imitating their movement.

The subsequent chapter on Gustav Meyrink's short story “Die Pflanzen des Doktor Cinderella” (1905) marks a shift in focus from short stories and films that view plants as benign life forms to texts in which transgressions of the assumed hierarchy of being are portrayed as monstrous. While the association of plant, human and the demonic recurs in many of Meyrink's horror and ghost stories, “Die Pflanzen des Doktor Cinderella” – an enigmatic tale of an Egyptologist who breeds carnivorous plants from human and animal organs as a scientist in a somnambulist state – is particularly fascinating for the combination of the figurative and the literal hybrid in the representation of a monstrous project of human, animal and plant interbreeding. Dr. Cinderella's monstrous, carnivorous plants, I argue, criticize both occultist practices and the materialism of the anatomical sciences for their shared result that splits the mind and the body. The reintroduction of these ancient secrets in the form of an Egyptian statue fragments the consciousness of

Doctor Cinderella as well as his body, resulting in the breeding of plants that embody the principles of materialism. The plants, composed out of body parts from animal and humans, reduce life to mere vegetative growth, criticizing the analogy of machines for life. Meyrink draws on the literary tradition of the Romantic Gothic horror story, the cultural imagination of carnivorous plants, the myth of the vampire and the science of artificial life to turn his sceptical eye to both the occult and the natural sciences.

Like chapter three, the fourth chapter addresses the appearance of hybrid formations between plant, animal and human as that which undermines systems of rational knowledge and models of human identity premised on the separation from nature. In F.W. Murnau's Dracula-adaptation *Nosferatu* (1921) and Henrik Galeen's 1928 film *Alraune* – an adaptation of Hans Heinz Ewers' gothic tale of a femme fatale born of a mandrake root – the vampire and *Alraune* stand as obvious metaphors for the 'foreigner' and the 'New Woman,' two figures often represented as threats to the social order in Weimar culture. But the figures' more radically subversive potential resides in their association with violent plants and with the dissolution between the human and its others. This association not only disrupts the social hierarchies between genders and nationalities, but also extends this disruption to the position of humans to their fellow species. The manner with which the two films dissolve the strict taxonomical differentiation between different forms of being is seen as a perversion of the classification system but also as a defiance of the hierarchy of being that allocates to plants only the most basic of existences, which is Aristotle's continuing influence on Western culture. In both *Alraune* and *Nosferatu*, it is the lasting influence of Aristotle's definitions of plant soul (nutritive) and animal soul (perceptive) which associates the characters with the monstrous and the soulless, in addition to

disrupting the hierarchy of being that places plants at the bottom. The ending of *Nosferatu* remains conservative; he is in the end destroyed, restoring the previous order of being and maintaining the taxonomy. The ending of *Alraune* retains a certain ambivalence; she is redeemed through her marriage, demonstrating mobility between species, but also a level of conservatism. The interpretation of the two films will rely on a close reading, using Aristotle's concept of the hierarchy of being and the concept of taxonomy to understand the role of the two characters Alraune and Nosferatu.

As the filmic and literary examples will show, the many representations of plant subjectivity lie along a spectrum between two extremes. At one end, there is a move for an inclusive, dynamic identity and, at the other end, a rejection of the other and a paranoid insistence on maintaining differentiation. The inclusive end of the spectrum presents a moment for learning, communication and creativity, while the other end is laden with anxiety about human identity. In the early 20th century, new media, technology, and scientific innovations prove to be catalysts for both ends of the spectrum. They initiate a renewal in a long debate on plant sentience, intelligence, taxonomy, and dynamism by making plant movement visible.

Chapter 1

Animating Glass: Representing the Elusive Plant Soul in Paul Scheerbart's "Flora Mohr: eine Glasblumen-Novelle" (1909)

"There, everything is moving. There, nothing is at all dead."¹ - William Weller

The narrator of Hugo Hofmannsthal's short prose sketch, *Die Rose und der Schreibtisch* rescues a dying rose from the snow and lovingly places it in a vase on his desk for one last chance to breathe.² An artificial, porcelain rose, in possession of a well-established place on his desk, mocks the narrator for his bad taste in placing the living rose next to the artificial. Hofmannsthal's sketch seems to uncover a contradiction from the point of view of literary history represented by beauty of the living rose and the preference for the artificial as expressed by the flower, an "old viennese inkwell" (alt-wiener Tintenzeuges). As represented in the conflict between the narrator's care for the living rose and artificial rose's scorn, the fin de siècle's infatuation with vital plants seems to run counter to the prevailing currents of Decadence and Symbolism, which tended to valorize a cult of extreme refinement and artificiality that eschewed the vitality of living nature. Yet, if the two roses in Hofmannsthal's story can be read as a glimpse into prevalent themes in decadent literature, then part of its pathos is the way in which decadent literature reveled in images of plants existing on the verge of death. Indeed, the passing from the natural to the artificial was a prevalent theme of the garden in decadent literature, as analyzed by literary critics such as Carl Schorske and seen in such examples as Stefan George's dying park from his famous poem "Komm in den totgesagten Park und Schau" ("Come in the Park Declared Dead and Look," 1897). George's park is a realm utterly opposed to the

1 "Da bewegt sich Alles. Da ist gar nichts tot" (515).

2 See Hugo von Hofmannsthal, "Die Rose und Der Schreibtisch," in *Gesammelte Werke in 10 Einzelbänden. Erzählungen, erfundene Gespräche und Briefe, Reisen* (Frankfurt am Main: Fischer, 1979), 443.

dynamism of Fechner's plant soul, one whose last vestiges of "green life" (grünes Leben) were to be transformed by the reader into an "autumn image" (herbstliches Gesicht).³

Little wonder, then, if the worlds depicted in turn-of-the-century literature and painting were so often populated by artificial flowers. And yet, such artificial worlds were not always as devoid of vitality or as removed from nature as one might at first assume. One writer who attempted to blend the cult of artifice with an interest in vital nature through images of plants was the science fiction author Paul Scheerbart. Although Scheerbart's short story "Flora Mohr" (1909) has received little attention in scholarship on the author, the text is highly relevant to the present study because it offers a good example of the kinds of utopian representations of plant life and plant souls that I discussed in my introduction. The story of one inventor's creation of fabulous artificial gardens constructed of glass, light and moveable machinery, "Flora Mohr" might appear at first glance as a literary heir to the kinds of artificial decadent worlds made famous in novels such as Joris-Karl Huysmans' *A rebours* (*Against Nature*, 1884). But as I will show in what follows, even as Scheerbart explicitly opposes his protagonist's mechanical flowers to any naturalistic imitation of nature, he nonetheless insists that his dynamic flowers possess both "life" and "soul," and he even draws on imagery reminiscent of Goethe to describe their movements. In what follows, I argue that the fantastical flower spectacle depicted in Scheerbart *should*, in fact, be seen as an effort to channel and imitate nature. However, "nature" appears here not as a collection of static and classifiable species familiar from botanical treatises, but rather as a *living, creative* force – precisely the kind of vital force that research into plant life had revealed. Scheerbart's imaginary spectacle of mechanical plants represents an

3 See Stefan George, *Sämtliche Werke in 18 Bänden. Band 4: Das Jahr der Seele* (Stuttgart: Klett-Cotta, 1982), 12.

attempt to use technology in order to cultivate and liberate such this creative force, and in this sense, the short story also depicts an effort to reconcile technology and nature. Moreover, as I show towards the end of the chapter, this endeavor also helps us to situate Scheerbart's imaginary plant spectacle within a broader current of turn-of-the-century visual culture—stretching from Loïe Fuller's light and electricity dances to early experimental cinema—that sought to convey the dynamism of nature rather than representing static objects. If plants show up as the referent for so many of these dynamic spectacles, this is surely no accident; for by the time Scheerbart wrote his short story, the plant had been rediscovered as an “object” teeming with creative force. It is this creative force that the protagonist of “Flora Mohr” attempts to recreate in his garden of moveable glass flowers.

“Flora Mohr” consists of two narrative levels moderated by a narrator called Münchhausen, who is an adaptation of the historical and fictional character.⁴ Münchhausen is speaking to a Japanese audience and recounting his experience of some of the fantastical gardens created by Australian inventor William Weller. The inset narrative is Münchhausen's talk, describing what he saw on Weller's estate and the discussions he had with Flora Mohr, Weller's niece who is temporarily living with her uncle. A visiting, rich Indian Nabob also contributes to the discussions on art and nature as he browses through Weller's gardens, looking for an acquisition. According to Münchhausen, Weller has constructed a palatial greenhouse that gives the impression of a “big botanical garden” with many “natural flowers” outside (492). The building serves as a workspace and as an exhibit

4 Hieronymus Carl Friedrich von Münchhausen (1720-97) was a German nobleman, who fictionalized his experiences in the Russian military, producing outrageous and extraordinary stories carried out by the fictional Baron von Münchhausen. The link between the 18th century Münchhausen and Scheerbart's is clear from a reference to the Russian campaigns at the end of “Flora Mohr”.

for Weller's many animated glass plants and flowers, arranged as landscapes and gardens and illuminated with coloured lights. Münchhausen's tour of Weller's compositions begins in a rotunda with statuesque and oversized glass flowers in the centre and on the walls. From there, he enters Weller's experiment room that consists of a floor inset with many glass lenses and varying arrangements of flowers underneath. They breakfast in a room with glass fruit hanging from trees reminiscent of a garden from *1001 Arabian Nights*. The other compositions include a lake filled with growing glass flowers; a garden with moving flower beds; a jungle-labyrinth with moving mirrored-walls and grottos; a rotating tower-panorama that depicts various stations of a flower's life; and finally a kaleidoscopic comet flower. The title character Flora Mohr acts as a contrast to her artist uncle by repeatedly arguing that the natural flowers are far more beautiful than artificial ones and insisting on sincerity and practicality. Her criticism heightens the beauty of the flowers for the visiting Nabob and causes him to buy the finest of Weller's creations, the "comet flowers" for a large sum of money. Münchhausen's account of Weller's art to the Japanese audience is repeatedly interrupted by his requests for food, drink and rest as well as descriptions of the ocean view, and comments from his audience and Clarissa, Münchhausen's German travelling companion. After Münchhausen finishes his account of what he has seen, both he and Clarissa leave the Japanese garden in an automobile at dusk.

Scheerbart's contribution to art, architecture and literature has been well-established through scholarship that concentrates on his place in the development of science fiction and fantasy literature (Ege, Patsch),⁵ his role as a precursor to Expressionism (Raabe),⁶ his

5 According to Ege, Scheerbart bases his fantasy aesthetic, a blend of science fiction and fantasy, on the epistemology of his day, seeing the role of fiction and science to broaden the realm of the possible (224). Cornelius Patsch addresses the difficulty of fitting Scheerbart's work, specifically *Lesabéndio*, within the development of the science fiction genre.

roots in Jugendstil (Ruosch)⁷ and his impact on architecture (Bletter, Stuart). Scholars often gravitate to Scheerbart's masterpiece novel *Lesabéndio* from 1913 as a rich text open to a myriad of interpretations and a ripe place to examine his visual aesthetics, world view, and satirical wit.⁸ In architecture circles, he is still well-known for his visions of colourful, brightly lit glass architecture as laid out in his manifesto *Glasarchitektur* from 1914. However, less attention has been paid to Scheerbart's use of 19th century spectacle including the phantasmagoria, the panorama, and the glass palace as well as his reception of the increasingly popular forms of moving image spectacles. The impact of Romantic writers and philosophers of nature on Scheerbart's world view has also been well documented, by tracing back his concept of a world soul to the influence of Fechner's panpsychist theory.⁹ However, in favour of his vision of the cosmic soul, scholars have often passed over Scheerbart's more familiar and earthy depiction of the world soul, the plant. Prevalent in “Flora Mohr,” the dynamic plant also runs throughout Scheerbart's oeuvre, opening up the possibility for new readings of his work.

“Flora Mohr” was conceptualized as a sequel to Scheerbart's novel, *Münchhausen und Clarissa* (1906), and published separately in 1909 as well as in the later collection of Münchhausen short stories, *Das Große Licht*, from 1912. “Flora Mohr” stands out from his

6 Paul Raabe identifies Scheerbart, “als größter Phantast der deutschen Literatur, als genialer Außenseiter der Jahrhundertwende und als Vorläufer des Expressionismus”. (“as biggest visionary of German literature, as genialist outsider of the turn of the century, and as a precursor to Expressionism,” (54).

7 In one of the few references to Scheerbart's plant imagery, Ruosch identifies the arabesque and the serpentine as characteristic of both Jugendstil and Scheerbart's plants (73).

8 The complexity of the novel leaves it open to a myriad of interpretations including “eine Erweiterung unserer Gefühls- und Vorstellungsschranken ins Kosmische” (an expansion of the limits of our feelings and imagination into the cosmic) (Adelt 222), a “social-anarchical culture utopia” (Bär 75).” and a, “tausendfarbiges Monumentalmosaik von berauschend-gestuftem Rhythmus” (thousand coloured monumental mosaic of intoxicating, sliding rhythm), a “kosmophilosophische Bekenntnisschrift” (cosmo-philosophical confession)” (Grätzer 224), and the “utopische Bild einer geistigen Gestirnwelt” (utopian image of a spiritual mind world) from the “reinsten unzweideutigenn Erscheinung der Technik” (purest, non-ambivalent appearance of technology) (Benjamin, Sur Scheerbart, 230).

9 See for example Müzeyyen Ege's *Das Phantastische im Spannungsfeld von Literatur und Naturwissenschaft im 20. Jahrhundert*, which I discuss in more detail below.

other narratives on account of the way in which it develops his aesthetics specifically through the visualization of a plant soul. In “Flora Mohr,” Scheerbart chose to elaborate on the flower and plant imagery from *Münchhausen und Clarissa* as opposed to the novel's other fantastical images, including caverns deep within the earth, fantastical creatures at the bottom of the sea and life in the cosmos. As seen from Münchhausen's description of an exhibition from the World's fair in *Münchhausen und Clarissa*; glass, water, and light already form an integral part of the plant spectacles in Scheerbart's works:

Clearly, the story of the evening was almost supernatural from all the colossal lighting effects. The lighting came first out of the water lilies. And how that appeared in the many glass flowers – you can easily picture that yourself. Naturally, the eighteen big captive balloons above were transformed into light-art-flowers. And the wires above were made into countless light-vines. And then, on the lake there was a colossal fountain composition that gloriously mirrored the above story in certain places. It finally appeared as if you could believe that all these coloured water streams were flowers. In addition, there was a brilliant balloon music just underneath the balloons. Various musicians sat just underneath the air balloons in gondolas. And in the middle, you saw the baton of the bandmaster moving up and down as a huge light-diamond-scepter. And with that the flower world simply fell on the lake, so that finally only the gigantic balloon flowers were reflected on the lake. And then it was suddenly completely dark above. And afterwards a play of light flowers of enchanting movement began underneath the surface of the lake.¹⁰

10 “Selbstverständlich war die Geschichte des Abends bei all den kolossalen Beleuchtungseffekten fast überirdisch. Die Beleuchtung kam zunächst aus den Seeblumen selber heraus. Und wie das bei den vielen Glasblumen wirkte – das können Sie sich natürlich leicht ausmalen. Natürlich wurden auch wieder die achtzehn großen Fesselballons oben in Lichtkunstblumen verwandelt. Und aus den Drähten oben wurden unzählige Lichtschlingengewächse. Und dann gabs auf dem See, der die obere Geschichte an einzelnen Stellen prachtvoll spiegelte, eine kolossale Fontänenkomposition, die schließlich so aussah, daß man alle diese sprühenden bunten Wasser für Blumen halten konnte. Und dazu gabs oben unter den Ballons eine großartige Ballonmusik. Sämtliche Musiker saßen oben in den Gondeln unter den Luftballons. Und in der Mitte sah man den Taktstock des Kapellmeisters als ein großes Lichtdiamantenscepter auf- und absteigen. Und dabei zerfiel die Blumenwelt auf dem See allmählich, sodaß schließlich auf dem See nur die gigantischen Ballonblumen gespiegelt wurden. Und dann ward es oben plötzlich ganz dunkel. Und danach entstand unter der Seeoberfläche ein Funkenblumenspiel von entzückender Beweglichkeit.”

(Scheerbart, *Münchhausen und Clarissa*, 69)

The dynamism in the World Fair exhibit in Sydney is characteristic of Weller's compositions as are the use of light, glass and water to enhance the sense of fluidity and weightlessness. Münchhausen's description of Weller's interior lake from "Flora Mohr" repeats many of the same details from the image in *Münchhausen und Clarissa*:

On the water swam twelve water lilies – completely colourful water lilies. And they suddenly began to glow colourfully, so that the dew work also became completely colourful. [...] We sat ourselves in a small row boat. [...] The water lilies dispersed colourful colour-clusters – like coloured projectors. [...] William asked me to look in the depths of the lake – and there I saw how coloured flowers grew slowly up. And the flowers grew up out of the water and glowed. They also glowed in the depths of the water.¹¹ (Scheerbart, Flora Mohr, 502)

The two compositions share an emphasis on dynamism and fluidity that is also characteristic of Scheerbart's images of the cosmos, suggesting that movement is fundamental to Scheerbart's world view. To visualize the plant soul, Scheerbart is also clearly leaning on the spirit iconography from the 19th century which depicted ghosts and spirits as hovering between visibility and invisibility, material and immaterial.¹² For example, spirit photography made visible the ghost as a transparent image, which indicates its state of being as insubstantial. While also characteristic of Jugendstil, the dynamic plant imagery stretches farther back to Romantic writers and philosophers, in particular to Gustav Fechner, whose perception of the natural world is very close to pantheism.¹³

11 "Auf dem Wasser schwammen zwölf Seerosen – ganz buntfarbige Seerosen. Und die begannen plötzlich bunt zu leuchten, sodaß das Tauwerk auch ganz bunt wurde. [...] Wir setzten uns in einen Kahn. [...] Die Seerosen streuten bunten Farbenbüschel aus – wie bunte Scheinwerfer wirkten die Büschel. [...] William bat mich, in die Tiefe des Sees zu blicken – und da sah ich, wie bunte Blumen langsam emporwuchsen. Und die Blumen wuchsen aus den Wassern heraus und leuchteten. Sie leuchteten auch in der Tiefe des Wassers."

12 Tom Gunning in his article on spirit photography and phantasmagoria from the 19th century discusses the way in which these forms signal spirit as that which is less substantial than living beings. See Gunning (To Scan a Ghost: the Ontology of Mediated Vision." Grey Room. 26.4 (2007): 99)

13 See Introduction for a discussion of Fechner's concept of a cosmic soul.

Scheerbart's preference for glass, colours, water and light reflects this intent to represent the creative force flowing within the entire physical world.

Although plant imagery is not as pervasive Scheerbart's oeuvre as his depictions of life in the cosmos, he did repeatedly return to the dynamic plant throughout his writings. In addition to *Münchhausen und Clarissa* and "Flora Mohr," he describes multi-coloured flowers growing deep within the moon in his novel from 1902, *Die große Revolution* (*The Big Revolution*). The flowers, which the moon inhabitants smoke, anticipate the dynamism and weightlessness of Weller's glass compositions (17).¹⁴ Another type of flower from the same novel, the lightening-flower, possesses both a flower language and a glass-like effect that are later echoed in "Flora Mohr" (45-6).¹⁵ As with the flowers in "Flora Mohr," technology reveals the beauty in nature, when the sensational range of colours in the lightening-flowers are made visible by capturing their brief appearance in the lasting

14 "Diese Blumen, die in allen Farben irisieren und opalisieren, sind hauchartig dünne Fächergebilde und kolossalen bunten Eisblumen ähnlich; aber die Blumen in den Rauchergrotten sind nicht einseitig – sie können sich nach allen Seiten entfalten – werden weite Spitzenblüten und Strahlendüten mit Schaumranken und haarfeinen Adern, die sich kräuseln – zitternd und glühend." ("These flowers, which iridesce and opalesce in all colours, are similar to breath-like thin images of fans and to colossal coloured frost, but the flowers in the smoker grottos are not one-sided – they can unfurl themselves to all sides – become broad pointed-blossoms and light rays with vines of sponges and hair-fine arteries that curl – shaken and glowing.")

15 "Die Blitzblumen nahmen unterdessen immer größere Formen an und wuchsen jetzt auch am hellen Tage in den sammetgrünen Himmel hinein. Und die Mondleute glaubten, daß diese Blumen eine große Blumensprache sprächen. Und die Weltfreunde deuteten diese Sprache natürlich zu ihren Gunsten. »Der Mond selber«, sagten sie, »will, daß wir seine Glasgefülle näher kennenlernen, denn sonst würden die Blumen nicht so glasartig wirken.« Das Glasartige und Durchsichtige, das jetzt den Blumen vielfach eigen war, schien nun allerdings die Meinung der Weltfreunde nur zu bestätigen. Oft flatterten die riesigen steifen Blätter der Blitzblumen wie kolossale irdische Libellenflügel in der Luft herum. Nur ein paar Sekunden lebten die geisterhaften Blumen aber sie ließen sich doch photographieren. In den Photographien konnte man erst die ganze Farbenpracht und die entzückende Aderzeichnung der Blattwandungen erkennen und genießen." ("The lightening flowers took on among those always bigger forms and grew now also in the light of the day into the velvet green sky. And the moon people believed that these flowers would be speaking a grand flower language. And the friends of the world naturally interpreted this language to their convenience. 'The moon itself,' they said, 'intends for us to get to know its glass images closer, for otherwise the flowers wouldn't have the glass-like effect.' The glass-like nature and transparency, which in many ways are one with the flowers, appeared to now confirm in any case the opinion of the friends of the world. Often the huge stiff leaves of the lightening flowers, flapped around like colossal earthly dragonfly wings in the air. The ghostly flowers lived only for a few seconds, but they let themselves be photographed. It was first in the photographs that one could recognize and enjoy the range of spectacular colours and the enchanting drawings of veins on the leaf walls.").

medium of photography.¹⁶ As with the spirit photography from the nineteenth century, photography visualizes the ephemeral. In another novel also from 1902, *Liwûna und Kaidôh. Ein Seelenroman (A Soul Novel)*, the two main characters fly over a forest that consists of massive flowers with an intoxicating scent (20).¹⁷ The plant imagery from these early novels shares with those in “Flora Mohr” the dynamism, ethereal bodies, and use of colour, suggesting a certain constancy to Scheerbart's view of nature. The inclusion of plants in his depictions of cosmic life reflects the high esteem he held for flowers as well as the connection he saw between the cosmos and flowers.

Starting with *Münchhausen und Clarissa*, technology, in addition to the transparency, colour and dynamism, becomes an even more integral part of Scheerbart's later plant imagery. In the description of his attempts to create a perpetual motion machine from 1910, *Das Perpetuum mobile. Die Geschichte einer Erfindung (The Pertuum Mobile. The Story of an Invention)*, he integrates mechanical elements and the art of projection into moving plants and intends to power the garden with the perpetual motion machine, which he has named “Perpeh”:

A garden whose parts are movable. Transportable hedges, transportable terraces. And particularly: transportable flower beds. Light in the evenings through lantern slides that are being lit from underneath. Flower basket garlands hanging on chains. Huge masts with blossoming flowers in baskets of earth, that are movable to pull up

16 Photography is paradoxically both valued and devalued as a medium in “Flora Mohr.” It is valued for its ability to present a life-like representation, yet this capacity also has the effect of devaluing the original artwork. Weller does not allow his artwork to be photographed because it would prevent him from receiving the optimum price. As a result Münchhausen must rely on language, even as it is inadequate to illustrate for his Japanese audience the beauty and originality of Weller's art.

17 “Berausender Duft steigt da den Beiden in die Nase. Der Himmel ist hell und weiß wie Kreide. Doch unten blühen Riesenblumen – so hoch wie Berge – Blütenkelche so tief wie Täler – Staubfäden wie schwankende Leuchttürme. An einer langen Mauer hängen Weintrauben, die so groß sind wie dicke Bündel aufgeblasener Luftballons Ringsum ein Urwald aus Riesenblumen!” (“Intoxicating scent rose up there into both of their noses. The sky is light and white as chalk. Yet under blooming massive flowers – as high as mountains – calyxes so deep as valleys – filaments like swaying lighthouses. On a long wall hung grapes that are as big as thick bundles blown-up air balloons. Surrounded by a jungle of massive flowers”).

and down – and can also rotate around the masts. The flowers have to hang out of the baskets. Movable flower walls from wire. Walls for protection against the wind. The movable must win the upper hand in the garden. Plants on big frames that can be moved with Perpeh. Moving Lighting. Swimming flower beds in the pond. Automatically moved big structures with glimmering glass pieces. (np)¹⁸

The combination of plants and technology culminates in his novel *Lesabéndio*, where phosphorescent plants serve as lights for mushrooms and other fungi that have been specially manipulated to increase the harvest and to serve as a food source. The plant imagery is informative for the picture it provides of the way in which technology, media, nature and spirituality are all intertwined in Scheerbart's aesthetic vision.

Technology and science underpin many of Weller's glass flowers compositions, opening up the possibility for him to represent pure creative energy, fundamental to Scheerbart's vision of spiritual art. Throughout “Flora Mohr,” the technology behind the movement of his glass compositions is conspicuous even when it is hidden. When on the interior lake, Weller is defending his glass compositions against Flora's condemnation of the artificial flowers as dead and empty, he states: “Do you see how the sapphire-blue leaves slowly open? A fine mechanism is within everything there” (“Siehst Du, wie die saphirblauen großen Blätter langsam sich aufklappen? Eine feine Mechanik steckt da überall darin,” 503). One of the more imaginative uses of technology is Weller's attempt to represent the spirit world through Geissler tubes (506). The glowing, glass tubes were named after the German, Heinrich Geißler, who perfected the vacuum-pump in 1855 that

18 “Ein Garten, dessen Teile verstellbar sind. Transportable Hecken, transportable Terrassen. Und besonders.: Transportable beete. Beleuchtung abends durch Glasplatten, die von unten aus erleuchtet werden An Ketten hängende Blumenkorbguirlanden. Riesige Mastbäume mit blühenden Blumen in Erdkörben, die beweglich sind – rauf und runter zu ziehen – und sich auch um den Mastbaum langsam drehen können. Die Blumen müssen aus den Körben lang heraushängen. Verstellbare Blumendrahtwände. Wände zum Schutz gegen den Wind. Das Bewegliche muss im Garten die Oberhand gewinnen: Pflanzen auf grossen Gestellen, die gefahren werden können mit Perpeh. Beweglich Beleuchtung. Schwimmende Beete in den Teichen. Automatische bewegte grosse Fächer mit glänzenden Glasstücken.“

stabilized the air pressure within the glass tubes (Dörfel 3). The colourful, vibrating light emitted from the Geissler tubes and the many subsequent permutations is a result of gas that has been ionized by a current of electricity [Figure 2]. Scheerbart would have seen these tubes with their colourful vibrating light decorating window shops or sold as toys in Berlin (Müller, 215, note 15). In “Flora Mohr,” the “phosphorescent flowers” (“phosphoreszierende Blumen”) form one of the five floors in Weller’s tower panorama and rotate around the central viewing area. Their phosphorescent glow is emphasized by complete darkness, causing Münchhausen to compare them to “apparitions” (“Geisterblumen”) (506). The combination of light, electricity and colour is Weller’s attempt to depict the spirit of the flowers: “I just wanted [...] to portray the soul of the flowers – I wanted to offer spirit-flowers” (“Ich wollte mal ... die Seelen der Blumen zur Darstellung bringen – ich wollte Geisterblumen bieten.”) (506). The word “Geist,” translated here into spirit and apparitions, is used several times to refer to the phosphorescent flowers, framing light, colour and electricity as a means to depict the immaterial like the phantasmagoria and spirit photography of the 19th century. For Scheerbart as for Weller, vibrating, coloured light becomes synonymous with spirit and forms a part of Scheerbart’s technological utopia of a dematerialized world.¹⁹

¹⁹ When referring to the inhabitants of the asteroid in *Leseabéndio* as “without character,” Kai Pfankuch comes to the conclusion that Scheerbart’s literary world is “insubstantial” in the sense of being immaterial (142).

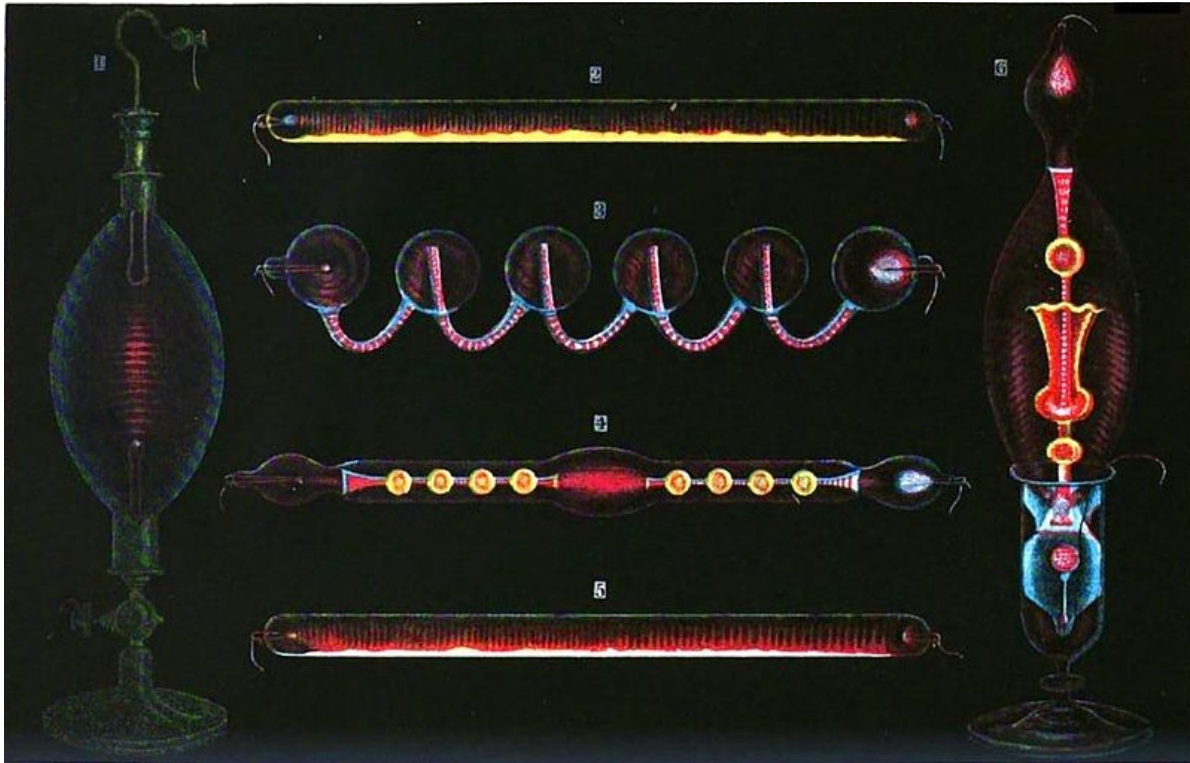


Fig. 2. Electric Discharge in Rarified Gases from M. Rapine *Elementary Treatise on Natural Philosophy, Part 3 Electricity and Magnetism*. (1896) y Augustin Private Deschanel. *Google Books*. Web. 27 Jan 2014.

The celebratory role of technology in “Flora Mohr” seems at first to be singularly modern, yet its use to animate lifeless material and Scheerbart's scepticism, expressed in his articles, give his texts a particularly Romantic feel.²⁰ As a scholar of Romanticism John Tresch argues, technology opened up in the arts the possibility of animating the non-living world:

The fantastic mode in the arts took shape at a moment when the limits of the possible were being stretched; its scenes of animated matter, vibratory

20 The Romantic elements of Scheerbart's fiction may not be coincidental since Scheerbart proclaimed his intention to bring about a new Romanticism in his “Autobiographie”:

“Die rasenden Anstrengungen, die ich trotzdem gemacht habe, diese Zeit des Sozialismus, des Militarismus und der Technik zu meinem fabelhaften und sehr religiösen Leben in Beziehung zu bringen, füllen mein sogenanntes Menschenleben aus und brachten meine Bücher hervor, die das Schwervereinbare doch immer wieder vereinen wollen - die eine trockne und fürs Massenhafte interessierte Zeit zu »neuer« Romantik und zu »neuem« Pietismus langsam hinziehen wollen” (329). (“The racing efforts, which I have made in spite of that, this time of socialism, militarism, and technology to bring together with my fanciful and very religious life, fill up my so-called human life and brought forward my books, that intend to unit that which is difficult to unit – the dry and for the masses time to a new Romanticism and to a new piety.”)

communication, lifelike machines, and eerie metamorphoses implicitly and explicitly referenced the scientific and technological transformations of its time. Rather than read the fantastic as a refusal of positive facts, it participated, along with the nineteenth century's confident new sciences, in a dialectic of doubt and certainty. (126)

Similar to these 19th century writers, Scheerbart expresses both doubt and certainty as to whether discoveries in technology and sciences would have positive impacts for society. He is well-known for his article, "Die Entwicklung des Luftmilitarismus und die Auflösung der europäischen Land-Heere, Festungen und Seeflotten" ("The Development of the Air Militarism and the Dissolution of the European Land Army, Fortresses and Sea-fleets"), on the consequences of developing a military force in the air, foreseeing the impact of air planes on casualties in the successive world wars.²¹ In Scheerbart's fictional works and especially "Flora Mohr," he takes a more celebratory note, choosing to imagine the possibilities for technology and science to improve human nature.²²

Scheerbart's desire to replace biological reproduction with artificial in "Flora Mohr" is a thread common to many Romantic narratives, including Mary Shelley's *Frankenstein* (1817).²³ Weller appears as a reinvention of Mary Shelley's Dr. Frankenstein, replacing biological creation with the artificial animation of lifeless materials, glass and iron, and

21 In Scheerbart scholarship, Scheerbart is often credited singularly prophesying the consequences of using air planes in war. Franz Rottensteiner's afterword to Scheerbart's *Rakkóx* from 1976 makes clear that such ideas were virulent at the time. He writes: "Aber so neu war diese Sache damals gar nicht mehr, auch wenn es sie in der Wirklichkeit noch nicht geben mochte und auch das Wort nicht; die populäre utopische Literatur der Zeit war schon voll davon." (But this idea was not any longer so new; even though it may not yet have been available in reality and the term also, the popular utopian literature of the time was full of it, 89).

22 In *Münchhausen und Clarissa*, he speaks of changing "completely stupid people" ("ganz stupiden Leute") into "moved, sensible artistic natures" ("bewegliche sensible Künstlernaturen") through moving architecture (35). Advanced mechanical devices underlying the aesthetic effect are implied. Elsewhere, Scheerbart more explicitly celebrates the technology underlying his inventions.

23 Movement or metamorphosis is brought to the forefront when the original subtitle of *Frankenstein*, "A Modern Prometheus", is included. It would be fruitful to compare E.T.A Hoffmann's *Der Sandmann* with Scheerbart's "Flora Mohr." While in tone they are vastly different, both consider how inanimate material can be perceived as alive. In *Der Sandmann*, it is Olympia who is misapprehended as a living woman through her movement and special glasses .

breathing a soul into them with the help of electricity (the Geissler tubes) in addition to mechanical devices (509).²⁴ But where Frankenstein has created a monster in excess of the human and autonomous, Weller has created beautiful glass gardens in excess of nature – larger, brighter and more beautiful – their movements controlled by Weller through a hidden mechanical apparatus. Scheerbart's utopian vision of artificial creation is missing the ominous tones of Shelley's, whose novel ends with the death of Dr. Frankenstein and his progeny. Instead, “Flora Mohr” ends with a harmonious celebration of technology and nature: “He drove now very fast, that the waves of the great ocean sprayed high from underneath the rubber tires of the baronial automobile. And many white seagulls flew by overhead” (519).²⁵ Like a highspeed photograph, the last image reflects a perception of a world in motion and life as motion common to both Romantic literature and to Modernism.²⁶

The modernist aspect of Weller's plant compositions is apparent through their immateriality and dynamism, which motivates in part the choice of plants over other beings. Scheerbart's vision of a dematerialized world correlates with his self-identification as “anti-erotic” (“Antierotiker”), and his rejection of sexuality (Rausch 616).²⁷ Scheerbart often derided his friend, author Richard Dehmel, for eroticism in his writing, calling him in a letter from December 1896, a “chief sexualist” (“Sexualisten-Häuptling,” “To Richard Dehmel,” 36). In his fiction, he privileges spiritual and artistic living over physical desires and substantial bodies. In *Münchhausen und Clarissa*, for example, Clarissa is praised for

24 Weller says he tried to breath a soul into his glass flowers (“meinen Glasblumen eine sogenannte Seele einzuhauchen”)

25 “Der fuhr nun sehr schnell, daß die Wogen des Großen Ozeans hoch aufspritzten unter den Gummirädern des freiherrlichen Automobils. Und viele weiße Möwen flogen vorüber”

26 Dr. Frankenstein not only animated his creation with electricity but his travels throughout throughout the world reflect a newly mobile class of adventurers, whose movements reflect a changing relationship to space and time.

27 In her afterword to *70 Trillionen Weltgrüsse*, Mechthild Rausch identifies Scheerbart's rejection of sexuality (616).

her desire to dedicate herself to the higher pursuit of art instead of having children.²⁸ The desire to be married is labelled as particular to women and represented in “Flora Mohr” by Weller's niece, whose dependence upon Weller's charity to marry her metal worker is manipulated by him to sell his artwork. He uses her steadfast belief in honesty, practicality, the beauty of natural plants and flowers and representational art to form a dark contrast to his glass compositions of light as is indicated by her name Flora Mohr (dark flower).²⁹ By representing darkness, everything she stands for – established art, the natural beauty of flowers and plants, and physical desires – becomes moralized. In contrast, the immaterial glass compositions become the utopian impulse away from the world of darkness.

The opposition of the material dark world with the light world of glass also corresponds to a physical difference between plants, humans and animals. Plants in “Flora Mohr” are framed as less substantial in their natural form than animals and humans. When responding to Flora's criticism that his flowers are “bloodless spectres” (“blutlose Schemen”), “a shadow realm” (“ein Schattenreich”), and “missing both flesh and blood” (“da fehlt überall das Fleisch und Blut”). Weller points out to Münchhausen that roses and violets are not made of flesh and blood and that Flora's words stem from her desire to be married (503). For Weller as for Scheerbart, there is an underlying distaste for physical desire as represented in the reference to blood and flesh. Plants, missing both flesh and

28 Clarissa places herself in opposition to the many who conflate creation with reproduction, insisting instead that a true creative person would overcome this push to reproduce: “die ganze Fortpflanzungsgeschichte ist auf der Erdrinde nur dazu da, daß einzelne schöpferische Menschen die Geschichte überwinden lernen – und bei diesem Überwinden das Schaffen lernen” (“the whole story of reproduction is only there on the surface of the earth, so that singular creative people learn how to overcome this history – and by overcoming it learn to create”) (60). Both Clarissa and Münchhausen belittle those who desire to have a family and hope to have “schöne Gesellschaftsrevolution” (“beautiful revolution of society”), meaning art would be the point of revolution rather than violence. (64).

29 The novella “Flora Mohr” has not been referred to by many scholars. In one of the few interpretations, Heinz Boewe reads Flora as an ironization of Scheerbart's bourgeoisie audience, who would read his narratives as mere “Spielerei” (shenanigans) (30). It would be interesting to further explore the role of Flora in this story as a framing device that offsets the utopian vision of art, part of which involves Scheerbart's satirical image of his opponents: specific audiences, art movements and materialism.

blood, understandably appeal to both as a way to bypass the physical world in an effort to embody the spiritual. In the natural world, plants are already perceived as physically closer to crystal and glass as fleshless and bloodless, and in the hierarchy of being form a link between the inanimate, minerals and crystals, and the animate, animals and humans. Weller pushes his glass compositions away from the material world and further into the spiritual by calling them his “glass dreams” (“Glasträume”). Furthermore, the relationship of plants to light in the natural world gives them a certain proximity to Scheerbart's symbol for spirit, light.

The generative process of dreaming reflects two interconnected and fundamental principles in Scheerbart's vision of art and literature, his repeated privileging of originality over mere imitation and the difficulty in communicating it. Descriptions of the fantastical plants are frequently accompanied by statements declaring Weller's desire not to imitate natural forms: “When I speak however of lilies, so I use only a word that should give the fantasy a direction; Weller absolutely did not want to offer an imitation of the natural with his glass flowers – nothing was farther away from him than this” (492).³⁰ The natural world and the language that both describes and determines it is set in opposition to the original, fantastical flowers which cannot be fully explained by the words available. In a discussion between Münchhausen and Clarissa while sitting in a room filled with orchids, originality becomes linked to an excess, an ungraspable that is unsayable: “Naturally, no one understood the main thing. I tried to explain to the best of my ability. Again and again, I said to them that Weller's glass flowers are absolutely not the usual flowers – that they are different than everything that we knew before – that they offer even more than any orchid”

30 “Wenn ich aber von Lilien spreche, so bediene ich mich da nur eines Wortes, das ungefähr der Phantasie eine Richtung geben soll; Weller wollte keineswegs mit seinen Glasblumen eine Nachahmung der natürlichen bieten – nichts lag ihm ferner als dieses”

(511).³¹ This comparison of fantastical plants to orchids is taken from a description of the Australian artist in *Münchhausen und Clarissa*: “[...] the Australian artist has naturally put the biggest effort in all his compositions to offer a deviation from everything earthly. It would be mistaken to talk about orchids, when one actually attempts to trump the orchids.”³² The reference to orchids is definitely not arbitrary. At the time of Scheerbart wrote “Flora Mohr,” the orchid was considered an unusual and fantastical flower, inspiring the story “Bologneser Tränen” of Meyrink's short story collection, *Orchideen: Sonderbare Geschichten* (*Orchids: Strange Stories*, 1905) and a drawing by Ernst Haeckel in *Kunstformen der Natur* (*Art Forms of Nature*, 1904). For the Japanese audience in “Flora Mohr,” the limits of their imagination stretches to the most fantastical flower in the natural world while misapprehending Weller's originality. For Scheerbart's readers, there is a cautionary note in the Japanese audience's misunderstanding of Weller's flowers, revealing the limits to the short story in describing Weller's new fantastical flowers. As with Scheerbart's many contemporaries in Symbolism, language was viewed as inadequate to describe the experience of life, and of living art.³³

Weller's opposition to imitating natural flowers should be read as a way of distancing his flower compositions from the existing art conventions, especially Naturalism and Impressionism.³⁴ In a self-advertisement for *Münchhausen und Clarissa*, Scheerbart

31 “Die Hauptsache hat natürlich Niemand begriffen. Ich hab's ihnen nach Kräften klargemacht. Immer wieder hab ich ihnen gesagt, daß die Glasblumen Wellers gar keine gewöhnlichen Blumen sind – daß sie anders sind als alles, was wir bisher kannten – daß sie noch mehr bieten wollen als alle Orchideen”

32 “[...] der australische Künstler sich natürlich überall bei seinen Kompositionen die größte Mühe gab, von allen irdischen Abweichendes zu bieten. Es wäre also verfehlt, von Orchideen zu reden; man suchte eben die Orchideen zu übertrumpfen”

33 The Symbolist, Maurice Maeterlinck, in his book *The Treasure of the Humble* describes the deception of language: “How strangely do we diminish a thing as soon as we try to express it in words! We believe we have dived down to the most unfathomable depths, and when we reappear on the surface, the drop of water that glistens on our trembling finger-tips no longer resembles the sea from which it came” (61).

34 Scheerbart directly criticizes Naturalism as unoriginal in his article, “Hat die Ornamentkunst jemals nach

described it as, “only the program for the new artistic goals” (“nur das Programm für die neuen Kunstziele”), a “new art” (“neue Kunst”), and distinct from Naturalism and Impressionism (346, 347). In “Flora Mohr,” Weller clarifies his position to representational art when he complains of the Viennese artist, Hans Makart's, reputation as a “Flower-ensouler” (“Blumenbeseeler”) even though he painted “only natural flowers” (“nur natürliche Blumen,” 509). Known for his intoxicating use of colour in his paintings and his flamboyant decoration, especially the Makart bouquet [Figure 3], the celebrity artist often chose historical subjects for his art and greatly influenced Gustav Klimt's early style. Klimt's later deviation from the Makart style of painting and Makart's own popularity to the point of celebrity contextualizes Makart as perceived to be conventional and unoriginal. The example of Makart also suggests that Weller and consequently Scheerbart wanted to capture the elusive spirit of flowers rather than their physical, material appearance in the flower compositions. Instead of measuring the worth of an artwork or piece of writing through faithfulness to the original, meaning both the object in nature such as an orchid and the established art conventions, Scheerbart advocated for literature and visual art that sought to be original and spiritual.

Originalität gestrebt?": Auch die Neigung zum Naturalismus hat wenig mit dem Streben nach Originalität gemein. Es werden nur die alten symbolischen Blumen - Rosen, Lilien etc. naturalistisch nachgebildet. Die Früchte, Schädel Vögel etc. sind ebenfalls auf eine Verwerthung der alten Ornamentmotive zurückzuführen. Der Nachweis dafür ist an so vielen Beispielen möglich, dass man in den naturalistischen Formen nicht ein prinzipielles Eingehen auf die Naturformen erblicken kann" (102). ("Has the ornamental art ever strived for originality? The leaning to Naturalism also has little in common with the striving for originality. Only the old symbolic flowers – roses, lilies etc are being naturalistically imitated. The fruits, skulls, birds etc can be similarly linked back to a devaluing of the ornamental motif. The proof for that can be seen in so many examples that in the naturalistic forms, a basic link to the forms in nature cannot be seen.")

So liess man Blumen Sprechen

Text und Bild aus dem Jahre 1884



Das also war das Schmuckstück in den Salons unserer Eltern: der Makartstrauß, ein Staubfänger aus künstlichen Palmenwedeln, Rohrkolben und Gräsern. Er galt damals als Sinnbild der „Raumkunst“. Wie man ihn seinerzeit begrüßte, lesen Sie in nebenstehenden Worten

Wohl selten hat sich ein Zimmerschmuck so rasch und siegreich Bahn gebrochen, als der nach dem berühmten Maler getaupte Makartstrauß.

Man hat einsehen gelernt, daß gerade das Farblose, „das Tote“, wie ein Vorurteil es nannte, bestimmt ist, dem Bouquet die Berechtigung zu verleihen, sich ebenbürtig feinen Luxusgegenständen anzureihen.

Wie von der Rücksichtnahme der Farbenwirkung abgesehen werden kann, so bindet sich die Verwendung von Makartbouquets also auch nicht an Räume von einem bestimmten Umfang. Meterhohe Kolossalsträuße zieren die Ecken und Nischen der Ballsäle, die Vestibüle, Foyers. Die Mittelgröße findet ihren Platz in Speisesälen, Teezimmern, Salons und Esszimmern, während selbst in das kleinste, träulichste Boudoir der Makartstrauß in Miniaturform Eingang zu finden weiß. Was die Herkunft des Materials anbelangt, so übernimmt der Strauß gleichsam die Vertretung der Pflanzenwelt aller Himmelsstriche. Die weißgebleichten, fiederreichen Palmwedel entstammen Ägypten, die silberglänzenden cremefarbenen Pampaswedel nennen die Prärien Kaliforniens ihre Heimat, Algier, Italien und Südamerika senden diese, Ungarn, Rußland jene Gräser und auch Deutschland ist mit verschiedenen kleinen Zittergräsern vertreten.

340

Fig. 3. Makartstrauß from *Scherl's Magazin*. 6 June 1933: 340. *Illustrierte Magazine*. Web. 10 Jan 2014.

However, while Scheerbart views representational art as unoriginal, this does not translate into antipathy for the natural world. In her book on *Münchhausen und Clarissa*, Beatrice Rolli asserts that Scheerbart views art as a way to enhance the magnificence already present in nature (16). Her assessment is confirmed by a contemporary of Scheerbart's, Max Creutz, who attested to Scheerbart's affection for nature, when he wrote

that nothing would give Scheerbart greater joy than to receive an orchid or another small flower as a gift (369).³⁵ Karl Hans Strobl in a small article about Scheerbart described him as “a person of love, of love of nature and all of her creatures” (“Scheerbart ist ein Mensch der Liebe, der Liebe zur Natur und zu allen ihren Geschöpfen,” 370). A similar sentiment is repeated by Weller in “Flora Mohr” in defence of his glass flowers: “I am of course also a great friend of natural flowers” (“Ich bin ja auch ein großer Freund der natürlichen Blumen,” 506). The reaction of the Japanese audience to Weller’s flower compositions also frames the relationship of the natural flowers to the artificial ones as complementary rather than oppositional: “This Flora Mohr is incomprehensible to us. We understand Mr. Weller’s palace as the highest glorification of the flower world. We couldn’t see it otherwise” (510).³⁶ For Weller as for Scheerbart, creating artificial glass flowers does not mean that he is against everything natural, but signals a complex relationship to nature that venerates the natural through expressing the creative force alive in the entire universe from the flower to the cosmos.

Weller is not only venerating the dynamic force he believes drives creativity, he also pays tribute to one of the foremost observers of plant movements from the Romantic nature philosophers, Johann von Goethe. The reoccurring spiral forms in many of Weller’s flowers recall Goethe’s observations of plant growth in his essay, “Der Versuch die Metamorphose der Pflanzen zu erklären” (“Metamorphosis of Plants,” 1790) and his subsequent didactic poem “Die Metamorphose der Pflanzen” (“The Metamorphosis of Plants,” 1798).³⁷ Weller’s

35 Max Creutz writes: “Und man konnte dem ‘armen’ Paul Scheerbart keiner größere Freude machen, als wenn man ihm eine Orchidee oder auch eine kleine bescheidene Blume schenkte” (369).

36 “Diese Flora Mohr ist uns ganz unverständlich. Wir nehmen Mr. Weller’s Paläste als höchste Verherrlichung der Blumenwelt hin. Wir können garnicht anders.”

37 In a later essay from 1831 (“Über die Spiraltendenz der Vegetation,” “On the Spiral Tendency of Vegetation”), Goethe directly addresses spiral movement in plants and attributes spiral growth to the feminine half and linear growth to the masculine, resulting in an androgynous plant (np).

references to Goethe are framed as a tribute in a circular foyer that is staged as a sacred space, an “age-old church” (“uralte Kirche”), and a museum, an “age-old rotunda” (“eine uralte Rotunde”) where the room must be protected from wear through slippers. Given Scheerbart's fascination with World Fairs, the rotunda also acts as an exhibition hall like the Viennese rotunda built for the 1873 World Fair (492-93).³⁸ The space is dominated by three oversized lily plants in the centre of the room with “snow white stems” (“schneeweiße Stengel”) “lemon-yellow horn-shaped blossoms” (“citronengelbe dütenförmige Blüten”), and “long iridescent filaments like mother-of-pearl [...] in spiral forms” (“lange perlmutterartig schillernde Staubfäden [...] in Spiralformen,” 492). Unlike the plants in most other rooms, the glass flowers appear still and inanimate, not yet speeded up to human time, at the pace that Goethe and his contemporaries would have encountered them in visual art and in the natural world. The stillness of the glass flowers and the reference to movement in the spiral forms honour a past in which plant movement was not yet visible to the naked eye but still seen and expressed through poetic language. For Goethe, poetic language offered a temporal medium to present development and life cycles. Goethe's vision of spiral growth of plants and his acceleration of a plant's life are exemplified in his poem, “Die Metamorphose der Pflanze” (1798). He writes: “In careful number or in wild profusion / Lesser leaf brethren *circle here the core.* / The crowded guardian chalice clasps the stem, / Soon to release the blazing topmost crown / So nature glories in her highest growth” (emphasis mine).³⁹ Goethe's dynamic plant is echoed in

38 It is fair to assume that Scheerbart would have known about the Viennese rotunda given his apparent fascination with world fairs. He uses the visionary concept of demonstrating the technological prowess as the staging ground for his vision of art and architecture in *Münchhausen und Clarissa*. Many of the media, such as the phantasmagoria and the panorama were also part of the world fair.

39 “Rings im Kreise stellet sich nun, gezählet und ohne / Zahl, das kleinere Blatt neben dem ähnlichen hin. / Um die Achse gedrängt, entscheidet der bergende Kelch sich, / der zur höchsten Gestalt farbige Kronen entläßt”

Weller's rotunda through the adjectives of motion describing the glass lilies, "turned" ("gedreht") and "wound" ("gewunden"). Similar to Goethe, Scheerbart chose the medium of letters to express the foundational aspect of life as temporal, yet his vision of glass architecture and plants, and the limits he saw in language express a dissatisfaction with what he and his contemporaries saw as the crystalizing properties of language. The limit of language to express the knowledge of the natural world resonates with Goethe's view of taxonomy. He positions his vision of a dynamic plant against the taxonomical method of understanding the world, suggesting that naming and classifying limits knowledge of the natural world rather than expanding it. Scheerbart also echoes this perspective and takes it a step further, at once, paying tribute to Goethe in the spiral forms and recognizing that existing knowledge of the natural world, the names and categories, limits the understanding of the generative and creative power in nature.

Recognizing the limits of language, especially the word "soul," and examining those limits was part of Gustav Fechner's panpsychic project. Gustav Fechner, one of the greatest influences on Scheerbart, was in turn greatly influenced by Goethe and other Romantic philosophers of nature. Writing at the mid-19th century, Fechner sought to bring together the hard science of empirical research and metaphysical philosophy to create a holistic perspective that would unite the materialism of science with the anti-materialism of spirituality. Fechner's impact on Scheerbart's concept of a "world soul" ("Weltseele") has been recognized and often discussed in reference to *Lesabéndio* and other depictions of comets and stars. In his examination of science and fantasy in Scheerbart's *Lesabéndio*, Müzeyyen Ege sees the central worth of Fechner's world view on Scheerbart as the "cosmo-fantastic" ("kosmophantastischen' Entwürfen") design of *Lesabéndio*, where the

comets and stars possess a soul and their own will (77).⁴⁰ Ege concludes that Scheerbart found in Fechner's cosmo-psychology a "fantastical science,' in which the seemingly 'incompatible' values of rationality and mysticism can be united. This means for him first of all an expansion of the reality concept, in which the fantastical is closely linked with reality rather than standing in opposition to it" (85).⁴¹ Scheerbart did directly refer to Fechner's influence on his view of the cosmos in his article "Das Ende des Individualismus" ("The End of Individualism," 1895). He claims that Fechner's *Zend Avesta oder Über die Dinge des Himmels und des Jenseits, Vom Standpunkt der Naturbetrachtung* (1851) had developed "the basic principles of the cosmo-psychology" ("die Grundprinzipien der Kosmospsychologie") defined as a "new, highly fantastic science" ("neue, höchst 'phantastische' Wissenschaft," GW 256). *Zend Avesta* was framed by Fechner as an expansion of the idea of a plant soul outlined in his earlier work *Nanna, oder über das Seelenleben der Pflanzen* (1848) to the possibility of a cosmic soul.⁴² Although Ege mentions *Nanna*, he does not link Scheerbart's portrayal of plants as ensouled, living beings with Fechner. In *Nanna*, Fechner premises the possibility of a plant soul on what he perceives to be a mistaken limitation on who can possess a soul, instead believing that individual souls are "particular manifestations of a general soul"

40 Fechner is commonly cited as exercising a profound influence on Scheerbart. Like Ege, Parsch's article on science fiction and *Lesabéndio* notes Fechner's influence on Scheerbart's cosmo-psychology. Although Parsch does not connect Fechner and Scheerbart's portrayal of plants, he does include a little known connection between a satirical philosophical essay by Fechner on angel bodies as spheres and Lesa's meditations on the "intoxicating" movements of galaxies (213).

41 "In der Kosmospsychologie Fechners schließlich findet Scheerbart eine 'phantastische Wissenschaft, in der das 'Schwervereinbare', Rationalität und Mystik, vereint werden können. Dies bedeutet für ihn in erster Linie ein Ausweitung des Wirklichkeitsbegriffs, in der das Phantastische mit der Realität eng verbunden ist und keine Opposition darstellt. (85)

42 Gustav Fechner states directly in his introduction that *Zend-Avesta* is a continuance of the project he started in *Nanna*: "Eine frühere Schrift, *Nanna*, kann insofern als Vorläuferin der jetzigen gelten, als dort wie hier versucht wird, das Gebiet der individuellen Beseelung über die gewöhnlich angekommenen Grenzen hinaus zu erweitern; dort aber in abwärts gehender, hier in aufwärts gehender Richtung" (IV) (An earlier writing, *Nanna*, can be considered as a predecessor to the current one, for there as here it is being attempted to increase the area of the individual soul over the accepted boundaries; but there the direction looks downward and here it looks upward).

(“individuelle Seelen als besonder Ausgeburt der allgemeinen Beseelung,” 33). Scheerbart adopted this idea, calling it a “world soul,” claiming that “we humans do not actually think at all, but rather the Earth thinks only through us” (“wir Menschen eigentlich überhaupt nicht denken, sondern daß nur die Erde durch uns denkt,” 255). In reference to the Earth, Scheerbart further exclaims that, “The stars think!” (“Die Sterne denken!”), thus attributing sentience to the planets (255). As with Fechner, Scheerbart believed that all earthly and astral beings are different manifestations of the world soul, leaving the pinnacle role, conscious thinking, to humans. The impact of Scheerbart's admiration for Fechner's version of pantheism on “Flora Mohr” is essential for understanding the philosophical underpinnings of Scheerbart's dynamic plants beyond their resemblance to the serpentine lines in Jugendstil art.⁴³

Apart from “Das Ende des Individualismus,” Scheerbart directly addressed the possibility of consciousness and life in the cosmos in two other articles written around the same time as “Flora Mohr.” In “Sternschnuppen und Kometen” (“Falling Stars and Comets,” 1909) and “Sind die Kometen lebendige Wesen?” (“Are the Comets Living Beings?,” 1910), Scheerbart uses an analogy between plants and comets to argue that the movement of comets is evidence that they are living and possibly sentient, just as plant movement indicates life and a soul.⁴⁴ In “Sternschnuppen und Kometen,” he reads the path of meteorites as a sign that they are “intelligent” (“vernunftbegabt,” 376). In “Sind die

43 Scheerbart wrote of life in the cosmos in several of his fictional texts including, *Lesabéndio, ein Asteroïden-Roman* (1913), *Die Seeschlange* (1901), *Liwûna und Kaidôh. Ein Seelenroman* (1902), *Kometentanz. Astrale Pantomime in zwei Aufzüge* (1903) *Astrale Novelletten* (1912).

44 In *Münchhausen und Clarissa*, he takes the analogy a step further to illustrate the advanced nature of the literature in Australia: “Andrerseits wird auch unsre Erdensonne in die Literatur als selbständig denkendes Lebewesen eingeführt. Daß irgendein Stern ein totes dummes unorganisches Ding sein könnte – daran denkt in Melbourne wahrhaftig Niemand mehr; das wäre ja auch zum Lachen, wenn man das Größere so ohne Weiteres für das Dummere halten wollte. Die Literatur steht also in Melbourne im innigsten Zusammenhange mit der bildenden Kunst; hier wie dort will man das Neue um jeden Preis. (69).

Kometen lebendige Wesen?,” he, at first, cautiously compares orchids and comets: “We need not at first think of rational, thinking beings – we can compare of course the comets with orchids. That this is a real 'life' cannot be denied; every researcher of nature would agree without a second thought” (449).⁴⁵ Scheerbart continues with the analogy of plant life, using the possibility of plant intelligence to argue for the possibility that comets are “‘intelligent' beings” (“vernünftige' Wesen“) suggesting that the simple plant soul may be equivalent to the comet soul (453). Just as Gustav Fechner began with the possibility of a plant soul and then extended his definition to include the possibility of a cosmic psyche, Scheerbart follows the same line of reasoning, extrapolating from life on earth to the cosmos. At the end of the article, Scheerbart concludes that the way has been made “for a new astral world view, in which the comets and planets – the moon and the suns – lead a free, big, cosmic life, in the face of which we have to bow to in respect (453).⁴⁶ For Scheerbart, the analogy of plant life and the cosmos was especially meaningful for the possibility of a new understanding of planetary movement. So, when his character, Weller in “Flora Mohr,” says that after seeing a comet appear to merge with the sun, he imagined colossal life in a comet and that this led to the idea that “the comets could be colossal flowers” (“Und ich stellte mir das kolossale Leben in diesem Kometen vor,” 515), the resulting glass creation, the comet flowers, should be read as an attempt to create a fictional account of Fechner's idea of a world soul.

Scheerbart uses “Flora Mohr” to visualize manifestations of the “world soul” in plants, extending it, as well, to astral life. Weller's last and “best” artwork, the comet

45 “Wir brauchen dabei zunächst noch nicht an vernünftig denkende Wesen zu denken – wir können ja die Kometen mit Orchideen vergleichen. Daß diesen ein wirkliches »Leben« nicht abzusprechen ist, das wird ja jeder Naturforscher ohne weiteres zugeben“

46 “für eine neue astrale Weltanschauung, in der die Kometen und Planeten – die Monde und die Sonnen – ein freies großes kosmisches Leben führen, vor dem wir uns in Ehrfurcht beugen müssen”

flowers, forms an analogy between astral life and flowers by bringing them together in one artwork as a way of emphasizing their similarities. He blends the two forms together: “The sun is also made from glass. You see how it always changes the colour. And the flowers surrounding it always receive different tails – by every small movement the tails are changing” (515),⁴⁷ and then later on: “[...] that also on the surface of the sun, images of flowers would also be visible” (“[...] daß auch auf der Oberfläche der Sonne Blumengebilde sichtbar würden,” 516). Weller voices the analogy as above all a similarity of form: “In any case [...] it is not improbable for me that the protuberances of the sun possess a certain flower-like character. One already speaks so often of protuberance forests” (“‘Jedenfalls’, sagte Weller, ‘ist es mir nicht unwahrscheinlich, daß die Protuberanzen der Sonne gewissen blumenartigen Charakter besitzen; man spricht ja schon so oft von Protuberanzenwäldern.’,” 516). From the similarity in form and movement, Weller implicitly draws the conclusion that comets and flowers both possess life and a soul in the natural world and in his glass compositions with the ambivalent statement: “There, everything is moving. There, nothing is at all dead” (“Da bewegt sich Alles. Da ist garnichts tot,” 515). Movement in the glass compositions were not only a sign of life but of a soul. In *Zend-Avesta*, Fechner refers to the movements of the earth as “soul movement” (“Seelenbewegung“) bringing together movement, life and spirituality (105). The analogy of flowers to comets as a way of seeing life in the astral movement also has the opposite effect of causing flowers to be viewed as the foreign and astral life on earth.

Scheerbart's admiration for Fechner's ideas belongs to a surge in interest at the turn of the century in the concept of a world soul. Kurd Laßwitz, another German language

47 “Die Sonne ist auch aus Glas. Sie sehen, wie sie sich immerzu in der Farbe verändert. Und die Blumen ringsum bekommen immer wieder andere Schweife – bei jeder kleinen Bewegung verändern sich die Schweife“

pioneer of science fiction, wrote a book examining Fechner's oeuvre, and a novel applying Fechner's ideas to fiction, *Sternentau: Die Pflanze vom Neptunsmond* (*Sun Dew: The Plant from Neptune's Moon*, 1909).⁴⁸ Another contemporary of Scheerbart's, Raoul Francé, also brings together plant movement and spiritual energy. He writes: "The plant possesses everything that distinguishes a living creature – movement, sensation, the most violent reaction against abuse, and the most ardent gratitude for favours" (20). He also connects movement and plants to a creative force in the universe, concluding that:

[...] life is a special force, standing on an equality with the other forces of nature, which transforms the raw material into something whose final form is unfortunately still concealed from us by the clouds of our own limitations. In this unfortunate condition of uncertainty, the one firm point to which we can cling is the feeling of complete inner unity with the creative and transforming forces of nature. (*The Germ of Mind in Plants*, 126)

The belief in a world soul is common to all three writers and points to a need at the turn of the century to balance materialism and a taxonomical understanding of the natural world with a perspective that allows for a spirituality based on movement.

Movement is combined with colours and forms in "Flora Mohr" to create a synesthetic experience that invokes plant spirit and life. The phrase, "colours and forms," is used repeatedly throughout the novella to describe Weller's glass flowers as living and possessing a soul. Coloured glass combined with light draws upon the sacred iconography

48 The name of the plant invokes a connection between astral life and plants. As with Scheerbart, Laßwitz uses fiction to demonstrate Fechner's concept of a world soul. In a conversation between a human and a plant, they discuss the different manifestations of the world soul: "Wir Menschen wollen auch teilnehmen an dem Ganzen des Erlebens. Auch wir begreifen mehr und mehr, daß alle Lebewesen nur Organe sind des Planeten und daß unser Bewußtsein in seiner großen Einheit zusammenhängt. Nur geht unser Weg von der Einzelseele zur Allseele, der eure aber umgekehrt von der Dauerseele zur Einzelseele (Pflanzenrede)." ("We humans also want to participate in the entirety of the earth's life. We also understand more and more that all living beings are only organs of the planets and that our consciousness is connected into its greater unity. Only, our way goes from the single soul to all soul, and that of the plant is the opposite from the everlasting soul to the single soul. (plant talk).")

of the church as a visual reminder of the heavenly spirit. In Scheerbart's manifesto on glass architecture, he explicitly places his use of coloured glass and light within a spiritual tradition from the ancient Babylonian temples and mythical Alhambra palace to Gothic churches, and adapts this sacred and spiritual purpose for widespread and common use (130). According to scholar Andre Schuelze, Scheerbart also draws upon theosophical thought, when he connects light with a “visualization of the immaterial, metaphysical powers” (“Sinnbild der immateriellen, metaphysischen Kräfte,” 41). As in both spiritual tradition and theosophical thought, Münchhausen encourages the interpretation of the “colours and forms” in Weller's glass composition as the visualization of a life force: “And then Weller pushed a button, and there were again other buds there – in other forms and colours. 'Now,' called William laughing, 'is this spring glory living – or is it not living?’” (507).⁴⁹ For Weller, the transformations of colours and forms suggest life. They also point to a modern adaptation of the static church windows, reflecting the meaning of motion for Scheerbart and his contemporaries.

Even though the kaleidoscopic colours and forms are a visualization of the creative and generative life force, they do not represent the essence of the natural world. Flora's objections to Weller's compositions reflect a central epistemological problem. How to represent the subjective experience of living beings, plants, animals (and even comets, if we are to subscribe to Scheerbart's belief that comets are living beings), for which we have no experience and no material basis. For the materialist, Flora, non-representational art and the medium glass are empty of meaning, visualizing neither life nor the soul. She asks Münchhausen and Weller: “Can you deny that they're dead? And – is it not always the

49 “Und dann drückte Weller auf einen Knopf, und es waren wieder andere Knospen da – in anderen Formen und Farben. 'Nun', rief William lachend, 'lebt diese Frühlingspracht – oder lebt sie nicht?’”

same, what one sees here? Always again only colours! And always again only forms?” (499).⁵⁰ She repeats herself later, shifting her argument slightly, from lifeless to soulless: “There are always again only colours and forms – nothing more. The soul is missing” (“Da sind immer wieder nur Farben und Formen – wieder nichts Es fehlt die Seele!,” 507). In response to her objections, Weller, then, clarifies the position of his artwork to nature as free from truth claims that maintain they represent the heart of nature: “The Flora is right in a manner of speaking. I admit that only ever colours and forms appear. But – is it not a little bit presumptuous, when one wants to discover immediately the quintessence of nature” (508).⁵¹ Scheerbart claims here and elsewhere that the inner life of animals and plants cannot be known but traces of an inner life can be read in their movement.⁵² Flowing colours and forms by being non-referential are another way that the spirit of nature can be invoked without claiming to know it or determine it.

The kaleidoscopic effect of the constantly shifting colours and forms figures prominently in many of Weller's glass displays as a means of invoking a sense of incompleteness familiar to both the Expressionist crystal metaphor and plant growth. In Weller's experiment room, he uses a series of magnifying lenses of differing strengths set in the floor to create a “kaleidoscopic effect of the best sort” (“einen Kaleidoskopeffekt erste Güte”) with the moving glass flowers underneath. Münchhausen describes the effect as an overwhelming combination of magical light, colours, and forms (“Lange hielt ich natürlich diesen Farben-, Formen- und Funkenzauber nicht aus,” 494). Each combination of the

50 “Können Sie leugnen, daß sie tot sind? Und – ist es nicht wieder dasselbe, was man hier sieht? Immer wieder nur Farben! Und immer wieder nur Formen!” (499)

51 “Die Flora hat ja gewissermaßen Recht. Ich gebe zu, daß immer nur Farben und Formen kommen. Aber – ist es nicht ein bißchen anspruchsvoll, wenn man immer gleich den Kern der Natur entdecken will?”

52 In Scheerbart's article on comets, he argues that the soul of orchids cannot be known but the fact that they exist is understood.

lenses in the floor and the placement of the flowers underneath produces an entirely new visual experience, and simultaneously suggests the potential for an endless array of new combinations. Rosemarie Bletter sees many similarities between Scheerbart's concept of glass architecture and Expressionist crystal metaphor: "...if there is an ideal, it is incompleteness and tension: shifting, kaleidoscopic forms are forever moving out of chaos toward a potential perfection, a perfection which is, however, never fully attained" ("The Interpretation of the Glass Dream-Expressionist Architecture," 33). The crystal metaphor of the constantly shifting forms transfers easily to plant form, reflecting on how plant growth is in constant movement towards a 'potential perfection,' to Goethe's primordial plant - always adding new leaves to the old, while never attaining the completed form.

The kaleidoscopic vision of plant movement also resonates with the evocations of plants by one of the greatest influences on Art Nouveau, dancer Loïe Fuller, whose efforts to convey the impression of pure energy in her veil dances relied on a combination of spiritualism and technology. Both Scheerbart and Loïe Fuller blend coloured lights and movement to evoke plant forms without becoming referential. In addition to her famous serpentine, fire, and butterfly dances, Fuller invoked various flowers, including orchids and lilies, in her light and colour dances as an effort to communicate the sensual experience not captured in conventional depictions of flowers [Figures 4 & 5]. She also projected microscopic photographs of cancer cells, images of skeletons and the surface of the moon onto her luminous garments. Tom Gunning, in an article on Loïe Fuller and Germaine Dulac, draws attention to plants as an inspiration for both the dancer and the filmmaker's experiments with kaleidoscopic visual spectacles. In describing Fuller's flower dances, he writes: "The flowers formed by Fuller's rapidly swirling fabrics could never be static, but

rather traced the pathways of motion itself, holding within each of its evanescent forms the imminence of transformation. Anticipating Dulac, Fuller declared, 'I desire to materialize the *insaisissble!* [unsayable]' (115). In her memoir, full of references to the many famous people she encounters, Fuller also writes in a small chapter on her belief that motion and light can convey more fully than language the experience of the senses (Fuller 72). Her attraction to light, colour and movement as the basis of her sensory spectacles echoes Scheerbart's efforts to combine impressions from the senses in a constantly shifting play of light and colour in "Flora Mohr." That plants are one of the fundamental points of inspiration for both Fuller and Scheerbart points to a widespread shift in the perception of plants from inanimate objects to dynamic, living beings at the fin de siècle.



Fig. 4. The Dance of the Lily from Lafitte *Fifteen Years of a Dancer's Life: With Some Account of Her Distinguished Friends*. By Loïe Fuller. London: H. Jenkins Ltd, 1913. 93. Web. 27 Sept. 2013.



Fig. 5. La Loïe Fuller from Jean de. Paleologue *Folies-Bergè*. Art.com. Web. 27 Jan. 2014.

Fuller and Scheerbart's choice of ethereal media: light, colour and movement made it a short step from portraying plants as living beings to visualizing the plant soul. It is clear from Fuller's memoirs that she believed she was channelling the soul of nature in her dances. She quotes from an audience member's journal that describes her impressions of Fuller's performance: "Soul of flowers, soul of the sky, soul of flame, Loïe Fuller has given them to us. Words and phrases avail nothing" (264). The audience member frames Fuller's fluid dances as capable of expressing the immaterial and the evanescent, which is beyond the determining properties of language. The same capacity to express the unsayable is attributed to Weller's plant compositions, "what I got to see with two crutches under the arms, doesn't let itself be so easily described. I saw into a colourful, completely marvellous flower and fruit world, and with every slow step, sliding on fur shoes, the colourful image changed underneath us" (494).⁵³ Created from glass, light and movement, Weller's flowers and plants also reflect the elusive, immateriality attributed to the concept of the soul, while holding on to a sense of permanence missing from Fuller's evanescent dance and present in photography and film.⁵⁴

As with Fuller, Weller's plant compositions also anticipate film, drawing on a combination of light and motion to evoke plant-like forms, but they also directly prefigure the avant-garde filmmaker, Germaine Dulac's, concept of film as visual music. While Dulac encouraged scientific and documentary style films, her own project strayed from the direct representation of the natural world. She conceived the potential of cinema as, "a visual

53 "[...] was ich da mit zwei Stricken unter den Armen zu sehen bekam, läßt sich leider nicht so leicht beschreiben. Ich sah in eine bunte, ganz fabelhafte Blumen- und Fruchtwelt hinein, und mit jedem langsamen Schritt, auf Filzschuhen rutschend, veränderte sich das bunte Bild unter uns"

54 The permanence of glass was very important for Scheerbart. In his manifesto on glass architecture, he writes: "Alle Baumaterialien, die haltbar und in wetterbeständigen Farben zu erhalten sind, haben Existenzberechtigung. Der zerbröckelnde Backstein und das brennbare Holz haben keine Existenzberechtigung" (45). ("All building materials that last in weatherproof colours have a right to exist. The bricks that crumble and the wood that burns have no right to exist.")

symphony made of rhythmic images, coordinated and thrown upon the screen exclusively by the perception of the artist” (41). Dulac's visual music resonates with Scheerbart's method for “composing” original art and architecture. In his advertisement for his novel *Münchhausen und Clarissa*, he writes: “I don't want to create through imitation, but rather through free composition of the impressions of the senses that which can be labelled 'new art'” (“Ich will nicht durch Nachbildung, sondern durch freie Komposition der Sinneseindrücke das schaffen, was man als »neue Kunst« bezeichnen kann,” 346). In the novel *Münchhausen und Clarissa*, he elaborates on his intention, suggesting that composing music is comparable to assembling image pieces from the natural world:

The Australian painter believes that he comes much faster behind the essence of nature, when he separates the single pieces of nature from one another and brings them together again afterwards in another art. Creating means for the Australian: New creating! And he can only create something new in his opinion, when he takes apart the available nature images – and with the taken-apart pieces, he creates new – completely new – images. Creating is composing. And one composes in Melbourne not only in music – one composes there in all arts. (80)⁵⁵

In “Flora Mohr”, Weller's glass flowers and plants are referred to as “compositions” (“Kompositionen,” 509), which then explicitly frames the “compositions” as an application of Scheerbart's method of composing visual music. The glass flower and plant compositions not only appear kaleidoscopic but the method of viewing the natural world is in essence also kaleidoscopic.

Scheerbart also shares with Dulac the belief that visual music is best suited for

55 “Der australische Maler glaubt, daß er hinter das Wesentliche der Natur viel schneller kommt, wenn er die einzelnen Stücke der Natur voneinander trennt und sie nachher wieder in anderer Art zusammenbringt. Schaffen heißt für den Australier: Neues schaffen! Und Neues schaffen kann er nach seiner Meinung nur, wenn er die vorhandenen Naturbilder zerlegt – und mit den zerlegten Stücken neue – ganz neue – Bilder schafft. Schaffen ist eben komponieren. Und man komponiert in Melbourne nicht nur in der Musik – man komponiert dort in allen Künsten.”

representing the unsayable. As for Scheerbart, plants were a key source of inspiration for Dulac's visual music, appearing in her writings as examples of rhythm and the visual capacity of film to reveal the imperceptible, the ungraspable and the emotional drama inherent in life itself. Her kaleidoscopic combination of light, water, plants and crystals in her film *Arabesque* (1929), “aspire less to present recognizable images than to invoke the *insaisissable* energies behind them, the flow of motion” (Gunning, “Light, Motion, Cinema!,” 122).⁵⁶ As in Dulac's films, Weller's non-referential compositions have been privileged as particularly capable of communicating the flow of motion, here called “spirit”: “Be still, I said, the Nabob and I are not like your lovely Flora; we see alright, what a wealth of spirit stories live inside us and come into us – like music coming into us” (510).⁵⁷ Moving visual media are framed as the ideal “language” for depicted the intangible aspect of a plant's life, its temporality or lived experience that contrasts so starkly with a static image of a plant as only material – an object.

56 While I have not been able to view this film, Tom Gunning has provided a detailed description of it in his article on Fuller and Dulac: “The finale of the film presents a time-lapse close-up of a flower as its petals unfurl, followed by crystals in growth, the shot of a twirling motion in a distorted mirror, a kaleidoscopic motion of silver balls. An even closer view of a woman's face appears, her face is juxtaposed with the fully unfurled flower, its white petals echoing her white scarf. In the final shot, the fountain transforms, in a subtle dissolve, into a faceted mirrored ball, which seems to cast both light and fragments of a reflected image of nature back into the camera” (121).

57 “Sei still, sagte ich, der Nabob und ich sind nicht so wie Deine liebe Flora; wir sehen schon, welche Fülle von Stimmungsgeschichten leben und kommen in uns hinein – wie Musik in uns hineinkommt.”

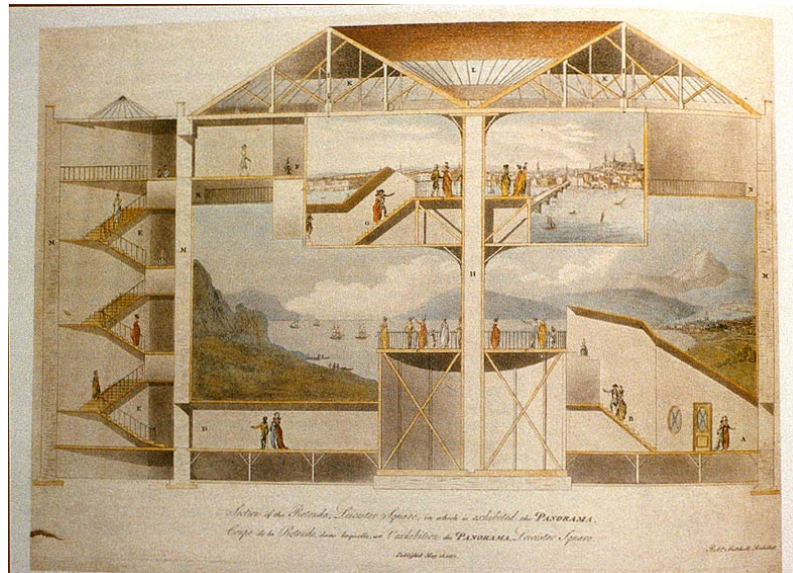


Fig. 6. Section of the Rotunda, Leicester Square, In Which is Exhibited the Panorama from *Plans, and Views in Perspective, with Descriptions, of Buildings Erected in England and Scotland* By Robert Mitchell. London: Printed by Wilson & Co. for the author, 1801. *Google Search*. Web. 28 Jan. 2014.

Weller's plant compositions also anticipate film in another way through the radical reconfiguration of the panorama. The panorama during the 19th century was a dynamic mixed media that used techniques such as lighting,⁵⁸ masking the frame, incorporating sculpture and the 360 degree view to give the illusion of reality [Figure 6]. Some installations consisted of a rotating canvas that presented a seated viewer with a series of scenes creating a narrative of the event as well as the impression of passing time.⁵⁹ Panoramas usually depicted historical or current events what Alison Griffiths refers to as “reenactments,” meaning that the events, “were to be interpreted *as if* the action was happening along an immediate temporal and spatial presence and continuity” (2). Weller's tower panorama shares with the 19th century version this immediacy, but instead of

58 Daguerre's painted dioramas from the 1820s made use of light to illuminate painted scenes and create a sense of wonder what viewers dubbed the *Salle de Miracle*.

59 “The Wreck of the Medusa” was such an example of a Peristrepheic panorama. A long strip of canvas that contained painted scenes was unrolled in front of a visitor.

reenactments, it is generating a new, non-referential fantasy world that replaces the representational paintings with glass sculptures. Weller also retains many of the characteristic features of the panorama, including the large scale, fixed spectatorship, invocation of presence, and delimitation of boundaries that anticipate film. Furthermore, he enhances the lighting effects, bringing his version of the panorama closer to experimental film, especially to Germaine Dulac's kaleidoscopic plant films than to the early nature films [Figures 7 & 8].



Fig. 7. Hands from *Thèmes et Variations*. scene still.
Dir. Germaine Dulac. 1928.



Fig. 8. Plants from *Thèmes et Variations*. scene still.
Dir. Germaine Dulac. 1928.

As with Dulac, Weller's tower panorama is an attempt to create visual music out of an interplay of light and shadow rather than simply animate the slow-moving plants through time-lapse photography as in the early nature films. The first four floors of the five-storey tower anticipate the reduction of objects to light and shadow in experimental film from the twenties. The viewing experience of his panorama is placed partway in between panorama and film. Weller and his company are seated in plush chairs as if in a cinema, watching the first floor, a frozen winter landscape of ice flowers, move past them as a moving

panorama.⁶⁰ As common to panorama installations, they enter from the middle of the floor into the second storey, the shadow play, where the spectacle comes to resonate with contemporary film language: “There, we sat just like in the first floor, and saw shadow plays – a glass flower world, in which all the effects worked towards the effect of a shadow; the light came once from above and once from below and then again from one side or from below. Everything colourful was dampened – nothing was harsh. Only the shadows were often harsh” (506).⁶¹ The changing location of the lights resembles the multiperspectivism of multiple camera angles and shots as does the harsh shadows anticipate the Expressionist aesthetic. Instead of the sculptures being the focus of this composition, in a filmic manner, the shadows they cast are the main feature. Like the rhythm films of Walter Ruttmann and Dulac's *Arabesque*, the interplay of light and dark casts sculpture and light as a medium of motion, representing the teeming flow of life. Hovering between presence and absence, the glass flowers are superseded by their shadows, becoming phantoms or representations of spirit and creative force.

While Weller's glass compositions have a great deal in common with early kaleidoscopic, experimental film, they also share some features with early nature films. Similar to the many short films on plants, Weller animates his flower compositions, speeding up the movements of plants through mechanical means: “For me, my flowers are not dead. Do you see how the precious bud opens slowly? Do you see how the stem becomes taller? Do you see how the sapphire blue large leaves slowly open? A fine

60 Scheerbar is playing with the word *Eisblumen* which means frost but can be broken down into ice-flowers. The icy flowers resemble frost, the genesis of their name.

61 “Da saßen wir denn ebenso wie im ersten und sahen Schattenspiele – eine Glasblumenwelt, in der alle Effekte auf die Schattenwirkung hinarbeiteten; das Licht kam mal von oben und mal von unten und dann wieder von einer Seite oder von hinten. Alles Farbige war gedämpft – nichts Grelles. Nur die Schatten waren oft grell.”

mechanism is within everything” (503).⁶² Just as Weller uses movement to justify life in his glass plants, a short nature film called *Pflanzen leben* (*Plants Live*) from the 1920s uses time-lapse photography to make visible plant movement and life. Early twentieth-century nature films also framed plant movement as evidence of a plant soul. In a film from 1922, *Die Seele der Pflanzen* (*The Soul of Plants*), intertitles instruct the viewer to read plant movement as the traces of a soul: “And yet a soul lives in the body of a plant!” (“Und doch wohnt eine Seele im Körper der Pflanze!”), and “Just like a human, the chaste mimose quakes under the feeling of pain!” (“Gleich dem Menschen 'erbebt' auch die 'keusche Mimose' im Gefühl des Schmerzes!”). The feature length film *Das Blumenwunder* (1926), which I discuss in more detail in chapter two, condenses the many discourses of these early nature films. The film calls on the viewer to see the accelerated movement of the plants as life; it brings to the viewer's attention the technical side of film; and of course connects movement with life.

Scheerbart's program for visual music belongs to his greater utopian vision for revolutionizing living spaces and humankind's relationship to nature through “moving architecture” (“bewegliche Architektur”). As described in *Münchhausen und Clarissa*, moving architecture has a similar effect to a “moving kaleidoscope” (“bewegende Kaleidoskope”), (and the two are often brought together) by providing the opportunity for, “always new, exquisite impressions” (“immer neue köstliche Eindrücke”). In “Flora Mohr,” Weller's labyrinth, the jungle, is a concrete example of dynamic architecture as infinitely original space: “And all around moving mirrored-walls, that are continuously and gradually being positioned otherwise, so that one doesn't recognize the area, when one returns” (Und

62 “Für mich sind meine Blumen nicht tot. Siehst Du, wie sich langsam die köstlichen Kelche öffnen? Siehst Du, wie die Staubgefäße größer werden? Siehst Du, wie die saphirblauen großen Blätter langsam sich aufklappen? Eine feine Mechanik steckt da überall drin”

ringsum bewegliche Spiegelwände, die sich immer langsam und allmählich anders stellten, sodaß man die Gegend nicht wiedererkannte, wenn man zurückkam,” 512). He continues to describe the effect these mirrors have on the perception of the trees: “And then, we wondered at the colossal, blue palm leaves at a small height, and we saw all around, how the other huge plants, which were mostly seen in mirrors, became time and again bigger and smaller” (514).⁶³ The moving mirrored-walls have the effect of integrating the glass compositions into the architectural features, allowing the plants to be read as a part of the architecture, while creating the illusion that the static glass plants are growing and shrinking. This blending of moving architecture and the glass plants belongs to Scheerbart's intentions for art to mimic the movement throughout the cosmos:

On a star that does not stay still for a moment, we go not only together with the sun, racing rapidly onwards in a brilliant curve; we turn also always around one another – the Earth around the sun, the moon around the earth and so on. Therefore, we must also strive to create a similar play of movement and rotation on the surface of our earth. It is really too uniform, to sit always in one place and with that to always enjoy the same view. We must bring movement in our enjoyment of nature and art. And you will have been completely convinced that it was successful at our World Fair in Melbourne, to bring movement in our whole life. (19)⁶⁴

This architectural feature of moving walls in the interior and the exterior reappears in Scheerbart's later architecture manifesto, *Glasarchitektur*,⁶⁵ as a practical means of creating

63 “Und dann bewunderten wir die kolossalen blauen Palmenblätter auf einer kleinen Anhöhe, und wir sahen ringsum, wie die anderen Riesengewächse, die zumeist in Spiegeln zu sehen waren, immer wieder bald größer und bald kleiner wurden”

64 Auf einem Stern, der nicht einen Augenblick im Weltenraume stillsteht; wir fahren nicht nur mit der Sonne zusammen rasend rasch in einer großartigen Kurve weiter; wir drehen uns auch immerzu umeinander – die Erde um die Sonne, der Mond um die Erde und so weiter. Demnach müssen wir auch darauf bedacht sein, auf unsrer Erdoberfläche ein ähnliches Fahrten- und Drehungsspiel zu veranstalten. Es ist doch allzu einförmig, immerzu auf einem Punkte zu sitzen und dabei immerzu dieselbe Aussicht zu genießen. Wir müssen Bewegung in unsre Natur- und Kunstgenüsse hineinbringen. Und Sie werden sich wohl überzeugt haben, daß es auf unsrer Weltausstellung in Melbourne gelungen ist, Bewegung in unser ganzes Leben zu bringen.”

65 *Glasarchitektur* is still read by architecture students and figures prominently within the history of architecture.

dynamic and continually new space.⁶⁶ Built in a park, the walls would create a “new architectural significance” (“neue architektonische Bedeutung”). To which Scheerbart adds, “And continually variable, this would be new” (“Und stets variabel wäre dieses Neue,” 67). An expansion of architectural features to the surrounding environment would for Scheerbart result in a reconfiguration of our relationship to the natural world and to our use of architecture as an enhancement of the world's natural beauty.⁶⁷ Furthermore, as is apparent from Weller's labyrinth, moving glass walls would also have the capacity to reveal the movement in the natural world invisible to the naked eye.

I have tried to show how Weller's glass gardens were evidence of Scheerbart's concerns with the technical aspect of creating art and how this did not preclude the spiritual. In fact technology in many cases enabled Weller to give his glass landscapes the feeling of life through light and a mechanical apparatus that moves the flowers. The point may be that artwork is not the sum of its parts, but rather it is the force of experience and the combination of new associations that give it its soul. Even if its heart is mechanical, the glass flower is not reducible to its machinery. Instead, there is a hopeful image of technology here. One that sees technology as a means to create the ever more spiritual body, a body that wavers between the world of ideas and the material. Glass becomes a tool to transform nature, to replace our reliance on the material body with the ever better, the

Scheerbart and Bruno Taut, known for his innovative glass designs, had a great influence on one another and collaborated on small glass house for the Cologne Werkbundaustellung in 1914.

66 “Ähnliches [to the movable walls in Japanese houses] läßt sich durch verstellbare und verschiebbare Glaswände in den Wohnräumen der Glasarchitektur erreichen. Bringt man die verstellbaren Glaswände...auch im Park an...eine neue architektonische Bedeutung geben. Und stets variabel wäre dieses Neue.” (67)

67 Scheerbart seems to frame his moving glass architecture not in opposition to the natural but in excess of it. In another small chapter from his manifesto, he visualizes a world without brick architecture and replaced by glass architecture. As he sees it, it would be, “as if the earth dressed itself with a diamond and enamel jewelry” (als umkleidete sich die Erde mit einem Brillanten- und Emailschnuck). He continues: “We would have then a paradise on earth and would not need to look up with longing at the paradise in the sky (Wir hätten dann ein Paradies auf der Erde und brauchten nicht sehnsüchtig nach dem Paradiese im Himmel auszuschaun) (42).

ever new, but the nature of such a quest leaves the perfection it seeks as incomplete – Walter Benjamin called this impulse in Scheerbart's work the “utopia of the body” (Steiner 78). The solemn sincerity of Scheerbart's vision of a better world is masked by the many narrative frames in “Flora Mohr” that reveal his cautious hopes and hide his vulnerability. But the expectation that these fantasies are realizable is apparent in Scheerbart's matter-of-fact manifesto, *Glasarchitektur* and in “Flora Mohr.”

The glass flowers here are also traces of Scheerbart's struggle to push art past its slavery to verisimilitude and consequently the established art conventions. Even as the influence of different literary and art movements are present in Scheerbart's story – one can read traces of Expressionism, Symbolism, Art Nouveau, Romanticism, and Science Fiction – the story does not fit neatly into either one of them. Instead it reads paradoxically as self-defined, original and dependent upon art and literary history to be distinct. Likewise, the glass flowers would hardly seem so alive and pure, shimmering with light, if it were not for Flora and her “dark” objections against her uncle's play of form and light. Reality gives Weller's living landscapes of fantastical flowers a reason to exist as the very possibility of change.

Chapter 2

Empathetic Media: Film and the “Gestures” of Plants in *Das Blumenwunder* (1926)

Suddenly, it has become a general need to give the inner experience an unmediated – bodily expression. Over night, it has become commonplace that language and concepts are inadequate. [...] In the face of this undoubtably justified mistrust of words, the silent arts made popular the gesture, in which the spirit – unmediated – is being embodied without the interposition of the rational conceptual. These arts call themselves dance, pantomime and film. (Balázs “Tanzdichtungen” 109)¹

In the previous chapter, I argued that William Weller’s imaginary moving gardens in “Flora Mohr” shared their emphasis on imitating the dynamic life of nature (as opposed to its outward appearance) with other early 20th-century forms of visual culture, in particular dance and abstract film. If both dance and film often referred to plants, I argued, this was hardly by chance given the recent upsurge of interest in the dynamic life of plants hidden beneath their outward appearance. But plants were not simply an analogy for abstract filmmakers such as Germaine Dulac. They were also the object of an entire series of scientific and cultural films in the Wilhelmine and Weimar cinema, which featured endless images of plants and flowers moving in time-lapse. In this chapter, I want to focus on one such film that made a deep impression on both artists and scientists alike: *Das Blumenwunder* (*The Miracle of Flowers*) from 1926. Originally conceived as an advertisement for fertilizer, *Das Blumenwunder* eventually became one of the most celebrated *Kulturfilme* of the 1920s, one that incorporated several well-known practitioners of the Weimar dance scene. Like Weller’s spectacle in *Flora Mohr*, the film relies on movement-based media – here film and dance – to depict the life of plants, and recognizes the limits of language to express the unseen dynamism of a blossoming flower. But instead

1 “Plötzlich ist es ein allgemeines Bedürfnis geworden, dem inneren Erlebnis unmittelbar-körperlichen Ausdruck zu geben. Über Nacht ist es zu einem Gemeinplatz geworden, daß die Sprache und die Begriffe unzulänglich seien. [...] [D]ieses zweifellos gerechtfertigte Mißtrauen unseren Worten gegenüber [hat] die stummen Künste der Gebärde, in denen der Geist unmittelbar, ohne Zwischenschaltung des rationell Begrifflichen verkörpert wird, sehr populär gemacht. Diese Künste nennen sich: Tanz, Pantomime und Film.”

of attempting to transcend the body through the weightless transparency of coloured glass and light, *Das Blumenwunder* presents the viewer with a deliberate return to the kinetic body as the medium of a shared, lived experience with plants. In what follows, I argue that *Das Blumenwunder* employs specific ideas about embodied aesthetics at work in both film and dance theory in the 1920s in order to promote a particular type of spectatorship: namely an empathetic relation to plants – understood as dynamic, living beings – beyond the conceptual language of science.

Das Blumenwunder has not yet gathered the same attention as other Weimar film classics and has not been widely seen outside the archives, although this is gradually changing.² Divided into five acts through intertitles, the film is a mix of dramatic, scientific and educational elements typical of a *Kulturfilm* (culture film). Set in a garden, the film begins with young girls running and playing in between flowerbeds. When one of the girls picks a few flowers and refuses to share, their harmony quickly disintegrates into fighting and wanton destruction of the flowers. Then, a fairy appears, Flora, the protector of flowers, and interrupts their casual disregard for the plant-life in order to teach the children how to see the flowers as living beings like humans. The second act very much resembles the nature films circulating at this time in Europe, showing hands manipulating plants as well as time-lapse images of plants moving. The third and fourth acts mostly consist of time-lapse images of plants, which intermittently dissolve into flower dances performed by the Berlin State Opera Ballet and their soloists. The fifth and final act, entitled “The Song of Becoming and Passing away” (“Das Lied vom Werden und Vergehen”), begins with a

2 In cooperation with ARTE TV, the Bundesarchiv-Filmarchiv, Deutschlandradio Kultur and the cinema Babylon, the Muthesius Kunsthochschule, Kiel, screened *Das Blumenwunder* on various dates in 2011 and one in November 2013. A live orchestra, the Norddeutsche Sinfonietta, provided the accompaniment reconstructed from the original music by Eduard Künneke. A dossier with extra film materials including reviews is also to-date available on the ARTE TV website.

flower dance and subsequent flower images, but differs from the previous two acts by repeatedly dissolving from time-lapse images of plants to the now empty garden from the first act. The available copies of the film end fairly abruptly with a cactus blooming, leaving the remaining few minutes open to speculation.

Das Blumenwunder's première on February 26th, 1926, at the Piccadilly Cinema in Berlin was warmly greeted by the press with mostly positive reviews. The *Berliner Morgenpost* named the film a “great marvel” (“großes Wunder”) and “perhaps the sensation of the year” (“vielleicht die Sensation dieses Jahres,” press clippings, Archiv der Deutschen Kinemathek). According to a review from the *Filmkurier*, the nature images became through this film an “artistic event” (“künstlerischen Erlebnis,” press clippings, Archiv der Deutschen Kinemathek). In the same review, it was estimated that over 70,000 people saw this film in 63 sold out screenings. There were, to be sure, some critiques. One reviewer questioned the pedagogic value of the third to fifth acts, noting that little information was provided through the images and the dancers, while other reviewers complained about the seemingly endless number of time-lapse images or the “ugly” expressionist dances (*Lehrfilme* 22).³ On the whole, however, the film continued to exert a broad appeal going well beyond the world of educational film. Representative, in this sense, are the remarks of Rudolf Arnheim, who would describe *Blumenwunder* in his book *Film als Kunst* (*Film as Art*, 1932) as “definitely the most exciting, fantastical and beautiful Film ... that was ever filmed” (“sicherlich der aufregendste, phantastischste und schönste Film...der je gedreht

3 One review from *Lehrfilme* noted negatively the unending number of time-lapse images of plants or the seemingly ugly style of the expressionistic dancers. The same reviewer critiqued the pedagogic value of the third to fifth acts, noting that little information was provided through the images and the dancers, although he did find the framing narrative instructive, teaching children not to mistreat plants (22). See Dr. M-1, “Kultur- oder Lehrfilm? Kritische Betrachtungen zum ‘Blumenwunder’.” (*Der Lehrfilm: Beilage zu „Der Filmspiegel“*. Kinematographische Monatsheft, Berlin, July 1926. *Archiv der deutschen Kinemathek*).

wurde,” press clippings, Archiv der Deutschen Kinemathek).

Reading such critiques today, what stands out above all is a repeated desire to see in *Das Blumenwunder* a model for another relationship between the viewer and the filmic spectacle. For example, *Der Montag Morgen* wrote: “One lives *das Blumenwunder*, feels the heart beating with the rhythm of the unfolding, and senses that these plant forms belong with animals and humans – they belong to the great realm of *ensouled*, *suffering*, and *active* beings in nature.” (“Man erlebt das Blumenwunder, fühlt das Herz im Takt mit dem Rhythmus der Entfaltungen schlagen und empfindet die Zugehörigkeit dieser Pflanzengestalten zu Tier und Mensch – zum großen Reich beseelter leidender und handelnder Naturwesen,” 10, italics mine).⁴ This comment and others like it have caught upon the unique viewing experience that the time-lapse images of plants present. While at times the reviewers focus on the revelatory power of film to depict plant movement, they also suggest that such depictions could call forth reactions of empathy in viewers. For Rudolf Arnheim, this process relied upon the accelerated pace of time-lapse images to reveal that plants could display “gestures” (“Mimik”), and “expressive movements” (“Ausdrucksbewegungen”) analogous to those of humans and animal.⁵ Focussing on *Das Blumenwunder*, I wish to consider how the time-based media of film and dance could be employed to kinetically teach viewers to adopt an empathetic relation to plants as living

4 *Tägliche Rundschau*: “Wir erleben den Pulsschlag der Pflanze, bewundern andächtig die Allmacht der Natur...” (“We experience the beating of the pulse of the plant, marvel with rapt attention at the almighty power of nature”); *Vorwärts*: “...durch diesen Film bewußt werden, wie die Pflanze wächst und den Umkreis ihres Lebens durchschreitet...” (“... being made aware through this Film how the plant grows and strides through the circumsphere of its life ...”); *Deutsche Allgemeine Zeitung*: “Es ist erschütternd zu sehen, wie die Pflanzen streben, gehemmt werden, leiden, verzweifelt sind...” (“It is shocking to see how the plant is striving, hemmed in, and plagued with doubts”) (press clippings, Archiv der Deutschen Kinemathek).

5 The connection between film techniques becomes obvious through Arnheim's complete statement: “...bei diesen Aufnahmen hat sich herausgestellt, daß die Pflanzen eine Mimik haben, die wir nicht sehen, weil sie mit zu langsamen Zeit rechnet, die aber sichtbar wird, wenn man Zeitrafferaufnahmen verwendet. ... die Pflanzen waren plötzlich lebendig und zeigten Ausdrucksbewegungen von genau derselben Art, wie man von Menschen und Tieren kennt.”

beings.

Before *Das Blumenwunder* reaches this bodily mode of communication and of viewing film, it prepares the way explicitly and implicitly for viewers to understand plant movements and film without articulated conceptual language. The film program for the première states outright that language is inadequate to describe plant movement: “One cannot describe these movements, this searching, struggling, and grasping of the creeper. [...] The written language is missing the words. The moving image illustrates for us like a holy book” (Film program np).⁶ Even though language is inadequate to convey the meaning of the plant movements, the first two acts still rely on a cognitive understanding of the images through intertitles to attribute meaning. Conceptual language is combined with familiar film forms of the *Kulturfilm*, the nature film and even references to early attraction cinema to teach the viewers how to understand and see the last three acts without the aid of intertitles. In this progression from a communication model based on conceptual language to an embodied language, the assumptions of culture and nature film behind the strict categorization of people as subjects and plants as objects are broken down and reassigned. This allows for the opportunity of another subjectivity, not measured by human standards of intelligence, but rather from a plant-based perspective of movement.

The keys to interpreting this plant perspective lie in two movement-based media, dance and film, which can provide meaning without resorting to an articulated language when attempting to interpret or “translate” the subjectivity of plants into the world of human perception. Dance becomes a model of kinetic learning that teaches the first step to a different form of understanding, one that can only come about through a mimetic

6 “Man kann diese Bewegungen nicht beschreiben, dieses Suchen, Kämpfen und Greifen der Kletterpflanzen. [...] Es fehlen der geschriebenen Sprache die Worte. Das schildert uns wie ein heiliges Buch das bewegte Bild”

connection to natural movement. Through imitation, dance transposes the movements of plants to the human body, so that the movement can be felt by the viewers in addition to being observed. The plant dances become a mode of communication between the voiceless natural world and the viewer's non-cognitive experiences of the world. Film not only acts as the means to showcase this mimetic model, but also enhances the similarities in movement between the dancers and the plants through time-lapse photography. Gradually, the film eases from a cognitive and visual interaction with the images into a bodily perception, encouraging the spectators to engage with the flowers through their bodies, and therefore, empathize with the movement and life of plants.

As acknowledged in the first two acts, conceptual language has great power to explain ideas, disseminate knowledge and tell stories, yet language also has played a large role in the disembodiment and suppression of other sensory-based ways of knowing in Western culture. Some scholars have traced this suppression of sensuous knowledge back to the creation of the Phonetic system of signs and its adoption by Plato, Aristotle and other Greek thinkers.⁷ According to Kevin Rathunde, it was Plato's universals and their disconnect from the natural world that helped to form thought in the West and led eventually to Descartes' mind-body dualism (191). He goes on to conclude that this separation led to a devaluation of the body and the view that sensory information is a potential source of illusion.

7 See Kevin Rathunde "Montessori and Embodied Education," 190; David Abrams *The Spell of the Sensuous: Perception and Language in a More-than-Human World*, 106.

Without delving too deeply into discussions on language and the body, it is still important to note that the relationship of spoken language to the body is closer than that of the written word to the body.⁸ While the speech act can also assume some aspects of the written word as an object, the act of speaking remains rooted in the body as that which must be experienced to exist. For this reason, the inclusion of an image of a man speaking in the fourth act of *Das Blumenwunder* is significant. The lack of accompanying sound – his speech – emphasizes the role of the body as meaningful during the act of speaking. Additionally, the body language pictured here provides a key for reading the other images of the dancers and the accelerated images of the growing plants as a form of communication. The small, quick gestures of the man speaking [Figure 9] are echoed in the



Fig. 9. A Man Speaking from *Das Blumenwunder*. scene still. BASF AG Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-1926. *Filmarchiv-Bundesarchiv*.

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- 8 Tony Jackson presents in *Writing and the Disembodiment of Language* a nuanced view of language as rooted in biology and also culturally determined. While not fully determined by reality, language is also not completely arbitrary nor relativistic as forwarded by many post-structuralists. Instead, writing as a technology and model has caused speech to seem at times inadequate, just as the speech act composes a complex communication act involving not only bodies, but social context and orality itself. He concludes that written language and its status as an object has come to subsume all forms of language and created objects out of them.

subsequent image by the twitchy movements of flowers growing. Analogous to the man's gestures, the movement of the flowers comes to be seen as body language.

The failure of language to convey the excess meaning of the lived experience or body language were of concern to writers and theorists from the turn of the century well into Weimar Republic. The symbolist writer and thinker, Maurice Maeterlinck, described the failure of language to express experience as dynamic and living. For film theorist, Béla Balázs, the emphasis on the written word had overshadowed other means of communication and divorced the soul from its body. Part of film's promise, according to Balázs, lay in its perceived potential to restore communication at the level of the body and its gestures, and thereby to enrich an impoverished humanity – one characterized by a dematerialized and abstracted relationship to the natural world. The desire was not to replace conceptual language as a means of communication but to displace its hegemony over expressions of the human self.

One finds this desire thematized frequently in early 20th-century German culture. Béla Balázs speaks of communication through gestures as that which has been lost. Similarly, Franz Kafka's short story, "Ein Bericht für eine Akademie" ("A Report for an Academy," 1920), thematizes this lost access to the natural world through an ape that acquires the ability to speak first through imitating the humans in his environment.⁹ Both Balázs's theory of gestures and Kafka's pseudo-Darwinian tale imply an earlier, more physical way relating to the world and to others before conceptual language took hold. But

9 In his report, the ape can remember a time before he had access to language: "Ich kann natürlich das damals affenmäßig Gefühlte heute nur mit Menschenworten nachzeichnen und verzeichne es infolgedessen, aber wenn ich auch die alte Affenwahrheit nicht mehr erreichen kann, wenigstens in der Richtung meiner Schilderung liegt sie, daran ist kein Zweifel" ("Naturally, I can nowadays only retrace the former ape-like feeling with human words and draw it as that which follows. But if I can no longer access the old ape-truth, at least my illustration gives the right impression. Of that there is no doubt." (206). As in the film, imitation also serves the function to learn how to communicate with the sailors on the ship as they brought him to Europe from Africa.

even more pertinent for understanding the thematization of communication and the visual strategies of *Das Blumenwunder* is the work of Walter Benjamin, who understood the mimetic faculty – i.e. our ability to identify similarities – as the remaining trace of a once great power to live in the world mimetically (Benjamin, “Doctrine of the Similar,” 69).¹⁰ Where others saw interacting with the world mimetically as an earlier stage of language, Benjamin believed that we were once able to read and understand the natural world through symbols as we now read language.

The subsequent philosophical career of Benjamin's concept in the writings of Adorno and the Frankfurt School – where mimesis held out the promise of an alternative to the instrumentalizing force of conceptual thought and language – is well known.¹¹ But the concept can also help us to approach a prevalent current of Weimar visual culture in photography and film: namely the preoccupation with visual analogies. A good example can be seen in a journal such as *Der Querschnitt* (1921-1936), where the editors never tired of highlighting the visual similarities between disparate items – animals, machines, people, artworks, etc. - in photomontages that forewent all textual explanation.¹² It should perhaps come as no surprise if plants often figure within these constellations. One montage from a 1925 edition of *Der Querschnitt* highlights the similarities between a dancer and a group of orchids [Figures 10 & 11], while another juxtaposes the mouth of a roaring tiger with a

10 Benjamin writes: “The gift which we possess of seeing similarity is nothing but a weak rudiment of the formerly powerful compulsion to become similar and also to behave mimetically” (69).

11 Adorno adopts Benjamin's concept of mimesis and seems to suggest that it is a solution to the rationalized and instrumentalized use of language as a tool of power without clearly defining what he means by mimesis. Ernesto Verdeja interprets Adorno's concept of mimesis as a problematic reconciliation with nature and of subjectivity and objectivity. Particularly useful for interpreting mimesis as it appears in *Das Blumenwunder* is both mimesis as symbolic understanding of movement in nature yet physical and as counteracting a rationalized and objectifying view of nature through a model that attempts to reconcile the two.

12 On the use of photomontage in *Der Querschnitt*, see especially Kai Sicks, “Der Querschnitt: oder die Kunst des Sportreibens,” in *Leibhaftige Moderne*, ed. Michael Cowan and Kai Sicks (Bielefeld: Transcript, 2005), 33-47; Michael Cowan, “Cutting through the Archive: Querschnitt Montage and Images of the World in Weimar Visual Culture,” *New German Critique* 120, vol. 40, no. 3 (2013), 16-21.

photo of an orchid.

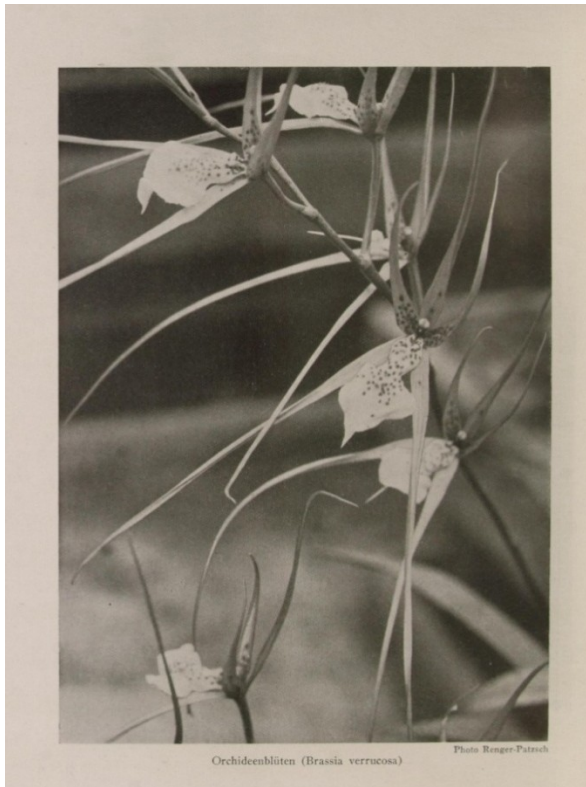


Fig. 10. Orchideenblüten, photograph from Albert Renger-Patzsch, *Querschnitt*. 6 March 1926: 41. *Illustrierte Magazine*. Web. 12 Aug 2013.



Fig. 11. Tanz im Freien, photograph from Gerhard Riebcke, *Querschnitt*. October 1925: 57. *Illustrierte Magazine*. Web. 10 Jan 2014.

Such visual analogies would also form a recurrent motif of 1920s cinema in films such as Hans Richter's *Zweigroschenzauber* (1929), where a magician employs a series of dissolves to highlight the surprising similarities between conceptually distinct objects (e.g. a bald head and a full moon) before the enraptured gaze of his audience. Like Richter's film and the other examples of visual analogies, *Das Blumenwunder* employs the same strategies to circumvent a rationalized and objectifying view of nature through a model that attempts to reconcile conceptually disparate objects.

While the contrast between conceptual and an embodied language as it plays out in this film is the focus of this chapter, the difference between the natural rhythm of plants and the *Takt* of measured time is also a dominant theme in this film and deserves some

attention. *Takt* refers to the artificial and mechanical time in clocks, pendulums and other mechanical devices with staccato movements (Blankenship 98). *Takt* also has a secondary meaning, referring to a group of dancers keeping in time together (99). In the first and - to the date of writing - the only journal article published on *Das Blumenwunder*, Janelle Blankenship contextualizes the film in its contemporary art, science discourses with rhythm as a connecting thread.¹³ She argues that this film offers the possibility of insight into the natural rhythm of the plant world through time-lapse photography and the contrasting *Takt*. She draws on the work of 19th century biologist and semiotician, Jakob von Uexküll, who, when arguing against the machine model of the natural world, extolled the possibilities of film to reveal the subjective time of animals and plants by stretching or shortening the human minute. These same possibilities of film also appealed to numerous avant-garde artists such as the filmmaker Germaine Dulac, who delighted in and felt inspired by film's ability to reveal the rhythms of the plant and animal world.¹⁴ Blankenship also touches on the possibility of an interactive film spectatorship and the dancers' mimicry of the blossoming flowers. It is from these two points that I intend to expand her interpretation of the film.

Jakob von Uexküll's biosemiotics suggest a way to view plants not just as objects but also as potential subjects.¹⁵ He uses music metaphors, composition and counterpoint, to interpret how an animal interacts with its surrounding environment. Every possible

13 At a screening of the film, Ines Lindner moderated a roundtable with the culture studies scholar, Peter Berz (Humboldt University), the film scholar Gertrud Koch (Freie Universität Berlin) and the Künneke expert Sabine Müller (Cologne).

14 Dulac's concept of visual music is discussed in the previous chapter on Scheerbart's novella, "Flora Mohr". Her vision of a film aesthetic that was composed of rhythmic visuals without conceptual language is also pertinent for *Das Blumenwunder* and is discussed further in Blankenship's article.

15 Von Uexküll's treatise *Umwelt und Innenwelt der Tiere* (The Subjective Universe of Animals, 1909) argues that the surrounding environment influences the individual animal and vice versa. His treatise forms the cornerstone of contemporary scholarship on ecocriticism and literature. See Kay Milton. *Loving Nature: Towards an Ecology of Emotion*. (London: Routledge, 2002, Ebrary; Web, 9 April 2014)

relationship is determined by a meaning carrier, a scent in one of von Uexküll's examples, and a meaning receiver, a moth in the same example. Their relationship, according to von Uexküll, is a duet and a composition, which is determined by a meaning rule (100). The scent of a female moth holds meaning for the male moth and directs his attraction. The meaning carrier then forms the shape of the meaning receiver or its counterpoint. Von Uexküll's main argument seeks to escape an anthropocentric view of nature in favour of one where everything has a subjective viewpoint from bacteria to flowers. His line of thought provides a method to question the meaning of every interaction from the perspective of the other. For my purposes here, it hints at a plant-based way to interpret the interaction of humans and plants in *Das Blumenwunder*.

German aestheticians coined the term empathy at the end of the 19th century to describe acts of viewing characterized by a physical connection between the artwork and the viewer.¹⁶ In his study, *Abstraktion und Einfühlung (Abstraction and Empathy)*, Wilhelm Worringer described the modern aesthetic as having taken a step from aesthetic objectivity to aesthetic subjectivity, which meant that any examination of art needed to start with the “behaviour of the observing subject” (“Verhalten des betrachtenden Subjekts”) instead of the “form of the aesthetic object” (“Form des ästhetischen Objektes,” 2). Such a method results in a theory, which Worringer names “lessons in empathy” (“Einfühlungslehre”). He defines this aesthetic experience further a few pages later: “Aesthetic pleasure is objectified self-pleasure. Aesthetic pleasuring means for me to take pleasure in myself in a sensual object that is differentiated from me – to feel myself in it” (4).¹⁷ For Worringer, viewing art involved a dynamic subject whose ability to transpose the self into the physical

¹⁶ Susan Foster provides a short history of the word empathy in her introduction to *Choreographing Empathy*.

¹⁷ “Ästhetischer Genuss ist objektivierter Selbstgenuss. Ästhetisch geniessen heisst mich selbst in einem von mir verschiedenen sinnlichen Gegenstand geniessen, mich in ihn einzufühlen”

object and to feel it comprised the physical experience. When applied to viewing both film and dance, the experience transforms a purely passive or disembodied one to one in which the images result in physical sensations.¹⁸

Such notions of embodied aesthetic experience worked out in modern theories of empathy have continued to play an important role particularly in dance studies. Dance studies scholars, John Martin and Susan Foster, for example, have seen the usefulness of this early connection of empathy with physical experience as a way of accounting for the unique physicality of viewing dance.¹⁹ In a series of four lectures, Martin spoke of the contagion of seeing physical movement as metakinesis;²⁰ through kinetic sympathy or more concretely described as muscular sympathy, the audience responds to the dance by feeling in their musculature the dancer's movements. Susan Foster broadens Martin's notion of kinetic sympathy to include the communication not only of the dancer's emotional and aesthetic experience but also of culturally defined modes of embodiment such as gender and ethnicity.

The latter observation also has relevance for a film like *Das Blumenwunder*. For the

18 Friedrich Nietzsche also wrote on empathy in *Daybreak* (1881): “*Empathy* – To understand another person, that is, to imitate his feelings in ourselves, we do indeed often go back to the *reason* for his feeling thus or thus and ask for example: *why* is he troubled? - so as then for the same reason to become troubled ourselves; but it is much more usual to omit to do this and instead to produce the feeling in ourselves after the *effects* it exerts and displays on the other person by imitating with our own body the expression of his eyes, his voice, his walk, his bearing (or even their reflection in word, picture, music). Then a similar feeling arises in us in consequence of an ancient association between movement and sensation, which has been trained to move backwards or forwards in either direction. We have brought our skill in understanding the feelings of others to a high state of perfection and in the presence of another person we are always almost involuntarily practising this skill” (89).

19 Other scholars include Walter Sorell who described kinesthetic sympathy as “the inexpressible dialogue occurring between dancers and between dancers and the audience; the experienced sensation over and above what can be reiterated in words,” quoted in *Dancefilm* (12). Mary M. Smyth leans toward a scientific approach to kinesthetic sympathy in her article “Kineasthetic Communication in Dance” (19). Carrie Lambert gives a brief historical summary in “On Being Moved: Rainer and the Aesthetics of Empathy” (45-6).

20 John Martin defines metakinesis in *The Modern Dance* as: “Movement, then, in and of itself is a medium for the transference of an aesthetic and emotional concept from the consciousness of one individual to that of another” (13). In a 1946 review, he describes the experience of muscular sympathy as feeling sympathy in one's muscles the effort seen in another's (22).

empathetic spectatorship the film calls forth can also be understood in gendered terms as a mode of feminine spectatorship – one that seeks to replace the rationalized order of knowing nature with an embodied relation. Film theory has long been concerned with the ways in which gender positions are played out through the filmic gaze. In particular, following Laura Mulvey's famous model of the sadistic and disembodied male gaze in classical Hollywood cinema, several theorists in the 1980s sought to articulate models of viewing coded as “female.” Gaylyn Studlar, for example, posited the existence of a “masochistic” spectator, who becomes a child in front of the dream screen and returns to a sense of unity with the mother.²¹

More recently, film theorists such as Laura Marks and Vivian Sobchack, although not working explicitly within a gender model, have sought to rethink filmic reception in general as an embodied affair in opposition to the disembodied male gaze of theories such as Mulvey's. Their project is an effort to recognize that films engage not only the senses of sight and hearing but also the sense of touch – they are felt. “Haptic visuality,” as Marks calls embodied viewing, “draws from other forms of sense experience, primarily touch and kinaesthetics,” causing the “viewer's body [to be] more obviously involved in the process of seeing than is the case with optical visuality” (332). Optical visuality, in contrast, promotes distance between the image and the viewing, allowing space for the viewer to identify with the image and project herself onto the object (335-6). Haptic visuality shifts the relationship of the viewer to the image away from the divided subject-object to a

21 Studlar sees the screen as transforming the spectator into child and the screen into the nurturing mother: “In a sense, these same wishes are duplicated by the film spectator who becomes a child again in response to the dream screen of cinema. This dream screen affords spectatorial pleasure in recreating the first fetish - the mother as nurturing environment” (787). In the real and mirror stages, the child has no control over the image of his ego and is analogous to the relationship of the spectator to the screen and images: “The object/screen/images cannot be physically possessed or controlled by the spectator. The spectator's 'misapprehension' of control over cinematic images is less a misapprehension than it is a disavowal of the loss of ego autonomy over image formation” (788).

merged subjectivity – what Sobchack calls the cinesthetic subject. In contrast with identifying with someone or something on the screen, the cinesthetic subject experiences film through the sensorium and “without a thought.” According to Sobchack: “We, ourselves, are subjective matter: our lived bodies sensually relate to 'things' that 'matter' on the screen and find them sensible in a primary, prepersonal, and global way that grounds those later secondary identifications that are more discrete and localized” (65). This bodily experience of film viewing commingles with the cinematic representation to the extent that meaning arises from a conjunction rather than either (67). The two forms of viewing, haptic and optical, are not exclusionary – often shifting frequently and swiftly throughout a film.

In *Das Blumenwunder*, the transition from optical visibility to embodied empathy is enacted by the very progression of the film's acts. During the first act, the film depicts quite distinctly a rationalized relationship to space, movement and in language. As the film opens, there is a definite sense of order and sectioning of the garden space and the girls' relationship to it. This is reflected in the clear separation between the flowerbeds and the paths in between, which in turn affects a separation between people and nature. As becomes clear, in one shot taken from a high camera angle, the girls' movement respects the ordered and rationalized space of the garden. They run in lines between the flowerbeds with the intent of catching the first girl, who first taunted the others into a chase. When the girl being chased trips and falls into a flowerbed, she stands up with two bunches of flowers in her hands. Both she and the girls surrounding her express wonder at the flower's beauty, followed by a desire to possess this beauty. There ensues a fight to obtain the flowers that recalls a long history of viewing plants as objects, one embodied by the classification system of Linneaus. By invoking a familiar relationship to nature and to space, these

introductory images act as a persuasive device to prepare the audience to see similarities between plant movement and dancing rather than immediately launching into a series of unexplained images of dancers and plants, which might or might not have the desired effect.

The use of optic visuality to induce the viewer to identify with the girls is manipulated by the film to shift the viewer's relationship to the image. The short narrative in the garden is followed by a short reversal of perspective. At first, the viewer seems to be positioned as an observer of the garden and the girls through the ordering of space and the position of the camera. But just before Flora's appearance in the garden, the camera drops to the level of the girls' viewpoint and the viewer now enters into the garden and begins to share their perspective. This shift in perspective also coincides with the girls' own transformation. For Flora's role is precisely to teach them to perceive aspects of nature previously beyond the scope of their acquired vision in both a spatial and temporal sense. She uses a conceptual analogy between the rhythm of the pulse, clocks and finally a clip of accelerated plant growth to illustrate her assertion that: "The flowers are alive like you"

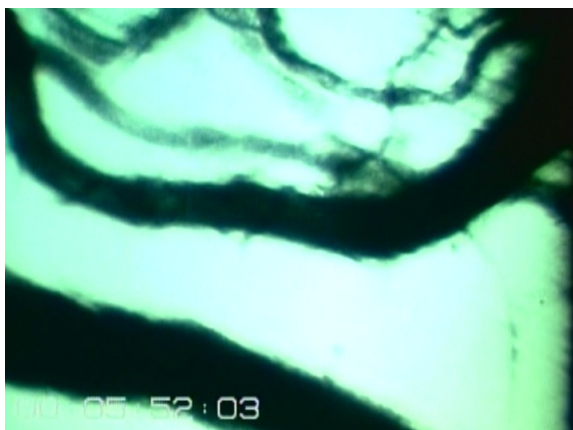


Fig. 12. Pulsing Veins from *Das Blumenwunder*. scene still. BASF AG, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.

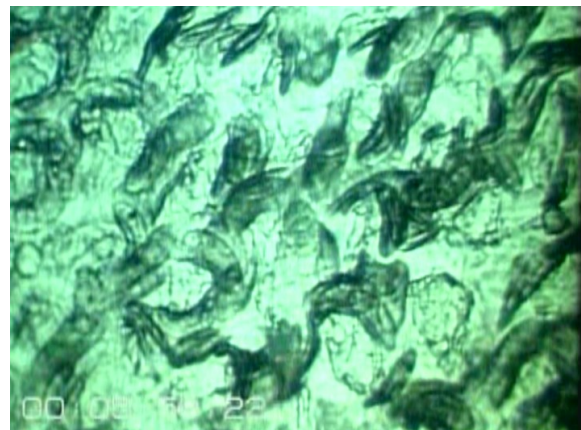


Fig. 13. Racing Blood Cells from *Das Blumenwunder*. scene still. BASF AG, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.

(“Die Blumen haben Leben gleich euch”). The microscopic clips of pulsing veins [Figure 12] and racing blood cells [Figure 13] highlight the ability of the microscope and the film camera to translate worlds beyond the human sensorium. Introduced by zooming into a blurred image of hands, the image of the veins and blood also has a secondary effect of shifting from optical visibility to haptic visibility. The texture of the images encourages the activation of a sense of touch as well as the pulse of the vein encourages awareness of rhythm of the viewer's pulse. The biological felt rhythm is then translated back to a conceptual explanation of the capacity of film to speed up time and visualized through the racing hands of a clock [Figure 14] A clock with days of the week instead of numbers and flowers on the face [Figure 15] is then used to complete the visual translation between the pace of the human pulse, the *Takt* of a clock and the slow time of plants. The subsequent clip of the accelerated movement of a flower growing is then to be understood as a combination of measured, rationalized time and biological, felt rhythm. Furthermore, the movements of the flower are meant to be read as analogous to the human body, setting the stage for later visual analogies between the dancers and the flowers.



Fig. 14. Racing Clock Hands from *Das Blumenwunder*. scene still. BASF AG, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.



Fi. 15. Clock with Days of the Week from *Das Blumenwunder*. scene still. BASF AG, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.



Fig. 16. Flora Pointing from *Das Blumenwunder*. scene still. BASF A G, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.

In generic terms, Flora's role is not unlike that of the showman or lecturer from the early cinema of attractions [Figure 16] – a role still well known in the science film – who sought to heighten curiosity and build expectation through speech.²² Like the cinema lecturer, Flora uses language to focus the children's attention and subsequently that of viewers on particular connections they should notice in the images. Before the microscopic image of blood flowing through veins, she explains how to see the image: “For humans, the rhythm of life is the beating of the pulse, is the meeting of the blood cells” (“Der Lebensrhythmus des Menschen ist der Pulsschlag, ist das Tagen der Blutkörperchen”). Similarly, between the images of the clocks and the one time-lapse image of a flower

²² Tom Gunning discusses the role of the showman in early cinema through James Stuart Blackton, who creates in his introduction of the train film a “sharpening of expectation” and “cathecting of curiosity through delay” (“An Aesthetic of Astonishment: Early Film and the [In]Credulous Spectator” 46).

blooming in the first act, she explicitly lays out the analogy between the pace of human life and plant life: “Twenty four hours, a day in the of a person, is the second in the life of the flower” (“Vierundzwanzig Stunden, ein Tag im Leben des Menschen, ist die Sekunde im Leben der Blume”). She then intensifies curiosity through delay by announcing: first “And now look there! Enchanted by the grasp of time, your eyes will see” (“Und nun schaut her! Im Zeitgriff verzaubernd werden Eure Augen sehen”), and then “The miracle of flowers should bloom in front of you” (“Das Blumenwunder soll vor Euch erblühen”). As the exhibitor, Flora thus draws back the metaphorical curtains to reveal time-lapse films of plants as objects in a display case. It is now impossible to see an unmediated image of the plants, free from her authoritative influence.²³ The reliance on conceptual language in the intertitles to explain the visual analogies demonstrates the primacy of Béla Balázs's reflections on the impact of print on human interaction. He cites the written word as the “principle bridge joining human beings to one another,” and identifies a disconnect between the body and the soul: “In the word, the soul has been collected and crystallized. Without the soul, the body is empty” (*Der Sichtbare Mensch*, 47).²⁴ The film *Das Blumenwunder* is based on the assumption that viewers, having lost the ability to use a bodily language to connect with one another, need conceptual language as an initial bridge in order to find a way back to a sensuous form of communication.

23 As the mediator, Flora also refutes the common role of women in film as objects of display and the gaze. She is not as Laura Mulvey describes on display and nor is she a passive object of the male gaze and subject to him (840). She engages in a dialogue with the girls, during which she directs their gaze away from her as the attraction to the films: “Und nun schaut her” (And now look there). With the subsequent insertion of a time-lapse flower blooming, the girls’ gaze is conflated with the film viewer’s and shifts to being receptive.

24 “Doch seit der Buchdruckerei ist das Wort zur Hauptbrücke zwischen Mensch und Mensch geworden. In das Wort hat sich die Seele gesammelt und kristallisiert. Der Leib aber ist ihrer bloß geworden: ohne Seele und leer.”

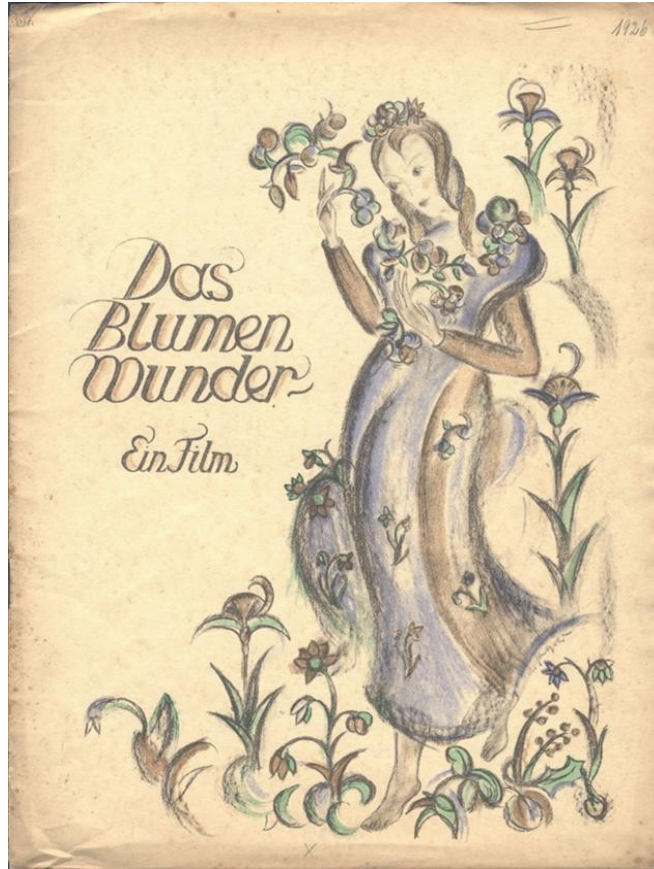


Fig. 17. Das Blumenwunder Front Cover from Souvenir Program. 1926. Archiv der Deutschen Kinemathek. Art.tv. Web. 18 Nov 2013.

It is Flora that directs this transition between conceptual and embodied language. Just as she uses media (microscopy and time-lapse photography) to make manifest a world beyond the reach of the human sensorium, so she herself *becomes a mediator*: a “go-between” bridging the worlds of conceptual and bodily language and – ultimately – of human beings and nature. Like a spiritualist medium, Flora allows the life of plants to “appear” through the body and speak through her voice, thus attesting to their subjectivity for the humans in the film and in the cinema. Indeed, her very name, Flora, as well as her costume, decorated in flowers, identify her as a hybrid of human and plant. Likewise, the cover drawing from the film program also depicts Flora as a hybrid figure, a human form that is practically indistinguishable from the flowers surrounding her [Figure 17]. Her

hybrid appearance indicates access to both plant and human languages, necessary to overcome their communication impasse. In her role as “go-between,” Flora thus embodies the tension between plants as objects and plants as subjects at the centre of the film's project.

Even as Flora stands between the viewer and the images, she also plays the *intermediator*, an advocate, who pleads the case of plants, as it were, to the viewing human community. In her role as “protector of flowers,” Flora translates the bodily language of plants to the conceptual language of humans, thereby lending to the plants another subjectivity, one capable of being registered and understood by people. The waving of a leaf or a blooming of a flower becomes their “Suffering and Struggle” (“Leiden und Kämpfen”), and more explicitly she states that plants “feel ... like you in blooming and wilting” (“empfinden ... gleich euch im Blühen und verwelken”). She interprets the language of the plants as signs of feelings both corporal and psychological. Just as these words shape the viewer's understanding of the latter plant images, they also prepare the viewer to step out of conceptual language to understand the waving leaf from contextual clues, when the flowers no longer need rely upon Flora as their voice.

In her role as the intermediary, Flora cannot be separated from reflections on the medium of film and the film's subject matter. In this sense, she differs from other narrators in early nature films. For example, the male narrator in a similar film from 1931 entitled *Geheimnisse im Pflanzenleben* (*Secrets in the Life of Plants*) remains apart from the natural world and privileges the conceptual language over images for learning about nature. Like Flora, that narrator describes plants as a “Living being ... like humans and animals – with sensations, emotions and certain senses” (“Lebewesen...wie Mensch und Tier – mit

Empfindungen, Regungen und bestimmten Sinnen,” *Geheimnisse der Pflanzenleben*, censorship card, Filmarchiv-Bundesarchiv). Instead of emphasizing the visual capacity of film to teach about plants, the time-lapse images are illustrations and an advertisement for the character's forthcoming book. It is from the book, and not the film, that “everyone will learn out of it” (“jedermann wird daraus lernen,” np). The time-lapse images are treated as a strictly realistic depiction of the plants from the greenhouse around them in an intertitle near the end: “Miraculous, this life of plants – how dead in comparison is every image!” (“Wunderbar, dieses Leben der Pflanzen. - Wie tot dagegen jedes Bild!”). Although he also explains the time it takes to photograph plant movement to create the time-lapse images, he ignores the mediated quality of the images, conflating the accelerated images of plants growing with plants in the natural world. In contrast to his position as apart from the natural world and from film, Flora is both embedded within the diegetic world and gesturing to films embedded further inside from her position as mediator of the image and the voice of the flowers.

Following upon the narrative frame of the opening act, the second act of *Das Blumenwunder* presents transitions into another familiar aesthetic mode: namely that of the *Naturfilm* (nature film), which uncannily echoes the girls' violence towards plants at the beginning of the film in language and human interference. Here, time-lapse images of plants filmed against a dark background are explained through intertitles that range from providing information such as the plant names (*Bananenblatt, Sichelkarn...*) to describing the images in scientific or dramatic language. Common to this section are intertitles such as the following: “But the person intends to impose the left rotation on her [the plant] with raw force” (“Aber der Mensch will ihr [der Pflanze] mit roher Gewalt die Linksdrehung

aufzwingen”). To which the plant responds and “remains the victor” (“bleibt Siegerin”). Such overt references to human violence and scientific manipulation are uncommon in most *Naturfilme* of this period. Instead, the intertitles at times simply name the plants or offer dry descriptions of the images, as in the following intertitle from *Hormonwirkungen bei höheren Pflanzen*: “Effect of one-sided application of Heteroauxin paste (0.005% H.A.) on the intact oat coleoptile time speeded up 480 times” (“Wirkung einseitig aufgetragener Heteroauxinpaste (0,005% H.A.) auf die intakte Haferkoleoptie Zeitraffung: 480-fach”). In other 1920s nature films, there are often pedantic and even dramatic descriptions of the images, as in the following intertitle from *Wunder der Natur: Aus den Wurzeln kommt der Kraft* (*Miracles of Nature: Out of the Roots Comes the Power*): “So a root tip is a exceptional artistic image. The whole fate of the plant hangs off of it.”²⁵ Lastly, plant life itself was often sensationalized with violent imagery, as in *Die Seele der Pflanzen* (*The Soul of Plants*): “Murderous desires slumber in the soul of the plant” (“Mordgelüste schlummern in der Seele der Pflanze!,” *Die Seele der Pflanzen*, censorship card, Filmarchiv-Bundesarchiv). While human violence is not absent from these films – *Die Seele der Pflanze* includes one image of a scientist's hand burning a Mimosa leaf – such *Naturfilme* tend to gloss over that violence in favour of a scientific picture of human relationships with plants.²⁶ The second act of *Das Blumenwunder*, however, directly thematizes the violence of science; indeed, its intertitles uncover the seemingly harmless didactic demonstrations in *Naturfilme* to reveal an essentially violent relationship, which

²⁵“So eine Wurzelspitze ist eine ausserst kunstvolle Gebilde. Von ihr hängt der ganze Schicksal der Pflanze ab.” The exact date of this film is unknown, but other films from the *Wunder der Natur* series were produced in the 1920s. All intertitles quotes come from notes taken during viewings at the state film archive in Berlin.

²⁶ For a discussion of the disembodied hand as an emblem of the cinema of scientific vernacularization, see Oliver Gaycken. “‘A Drama Unites Them in a Fight to the Death’: Some Remarks on the Flourishing of a Cinema of Scientific Vernacularization in France, 1909-1914.” (*Historical Journal of Film, Radio, and Television*. 22.3 (2002): 353-74. *Taylor Francis Online*, Web, 4 April 2014).

technology – and in this case also film – perpetrates. Noticeably absent from this act are the flower dances, as *Naturfilme* are less about communicating with plants reinforcing a sense of scientific mastery over the object.

In the second act, the violence of science towards plants echoes the violence of desire and greed thematized in the first act. The composition of the images in Act Two is reminiscent, in particular, of Karl Blossfeldt's well-known plant photography and connotes the same cool objectivity. But whereas Blossfeldt's images lack evidence of his manipulation of the plants and photos,²⁷ *Das Blumenwunder* shows hands and other tools entering into the frame and experimenting with the plants. Characteristic of such intrusions, one image shows two hands uncurling a vine from a stick, curling it in the opposite direction and pinning it to the stick [Figure 18]. In other *Naturfilme* in the 1920s and 30s, the disembodied hands manipulate the behaviour of the plants, demonstrating the heliotropic striving of a plant upwards by turning the plant sideways in *Wunder der Natur* or the sensitivity of the Mimosa by burning it in *Geheimnisse im Pflanzenleben*. Cutting the scientist's face and its expressive subjectivity out of the frame, Act Two of *Das Blumenwunder* replicates in the hands the scientist's instrumental approach and highlights a relationship confined to the bare aesthetics of the laboratory. There, the relationship is of one of mastery, where an objectifying scientific gaze subdues nature, and where measuring and recording are emphasized in place of communication and negotiation. While the result of this relationship, violence, is similar to that resulting from girls' desire for possession in the opening act, it is now impossible to identify with the hands. Even as a will is

27 Part of the appeal of Blossfeldt's photos consist of the impression of objectivity they leave on the viewer.

According to a recently published collection of his working prints, it soon becomes apparent that his photos did not just reveal the plant as it is but magnified. Rather, the plants and the first images had been cleaned up to render a better or even ideal example of the plant. See Ulrike M. Stump, "Karl Blossfeldt: The Working Collages," *Working Collages*, (Cambridge, Mass: MIT Press, 2001), 12.



Fig. 18. Hands Manipulating a Plant from *Das Blumenwunder*. scene still. BASF AG, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.

recognized in the plant through such descriptors as “uncertain” (“verzweifelt”) and “struggle” (“Kämpfen”) and in the uncanny human-like movements, its position as object prevents identification.²⁸ Yet, in the process of demonstrating a plant will – one that manifests itself precisely in its resistance to the intentions of the scientists – the possibility is opened up for a different interaction between humans and plants in the subsequent acts.

It is here, in the third to fifth acts, that an alternative comes into view as conceptual language and rationalized nature are replaced in favour of communication through embodied language and through empathy. There are no longer any intertitles to explain and determine the plant images, which now centre almost exclusively on flowers; instead

²⁸ Produced over four years, the original purpose of the film, to advertise fertilizer – a means of manipulating the rate of plant growth, further reinforces the plant as an instrumentalized object.

conceptual language is replaced by the language of dance. In their performance, the dancers mirror, translate and transform the time-lapse flower images, expressing the inner pathos of plants garnered through kinetic empathy. Other images – such as a man talking and a snake – reinforce their depiction of unity among plants, humans and animals. Without the disembodied hands and the mediating subtitles of the first and second acts, the viewer is now free to identify first with the dancers and then – through them – with the flowers. The tools of association, learned in the first act, and a sense of the plant's free will from the second act, empower the viewer to understand the non-narrative form in the last three acts as an alternative mode of communication with nature and with the image.

That this communication occurs through dance is hardly insignificant, for modern dance – and *Ausdruckstanz* in particular – was largely driven by the same desire to articulate an alternative to conceptual language that informed film theories such as that of Béla Balázs. Rudolf von Laban, one of the most influential theorists of *Ausdruckstanz*, largely understood his dances as a means of reconnecting bodily with the invisible rhythmical movements of nature – plants, crystals and the cosmos – and communicating such hidden 'life' to the spectator: “What is being awoken in the viewer [...] through the resonance with the actual dance piece,”²⁹ he writes in *Gymnastik und Tanz* (1925), “is [...] the animating of some power that puts us in the position to resonate together with the eternal primal universal dance of being” (16).³⁰ Laban's most famous student, Mary Wigman, defined modern dance for her part as a means of transforming knowledge (Wissen) into experience (Erlebnis):

29 “Was [...]durch das Mitschwingen mit dem wirklichen Tanzkunstwerk im Zuschauer geweckt wird”

30 “ist [...] die Belebung jener Kraft, die uns instande setzt, mit dem urgesetzlichen Alltanz des Seins dauernd zusammenzuschwingen.”

On this point, see also Evelyn Doerr, *Rudolf Laban. The Dancer of the Crystal* (Lanham: Scarecrow Press, 2008) (58).

There, where the knowledge of things stop, where only experience is law, there, the dance begins. We don't dance feelings! They are already too definite, too clear. We dance the changes of the state of the soul, how it is carried out in every instant in a particular manner and in the language of dance, it becomes a reflection of a human, an unmediated symbol of the entirety of living beings. (qtd in Müller, *jeder Mensch ist ein Tänzer*: 35).³¹

Several points in Wigman's definition shed light on the function of modern dance in *Das Blumenwunder*. Wigman identifies the boundaries of dance as a dynamic, individual experience rather than a cerebral understanding of the world. Like Laban, she saw dance as a means of communicating the unity of all living being. Nor was this view of dance as a means of bodily 'participation' limited to the theorists of *Ausdruckstanz*. Even a proponent of machine dance such as Oskar Schlemmer could figure dance as a means of empathetic communication between the dancer and his environment, one in which the dancer takes in the surrounding space and then responds from his innermost space (Müller 38).³²

The concept of dance as a means of generating empathetic communication had its intellectual roots above all in the thought of Friedrich Nietzsche, in particular his championing of the "Dionysian" as an alternative to the rational relations favoured by Apollonian culture. One of the first theoreticians of modern dance, Isadora Duncan, largely crafted her vision for dance as an affirmation of life in unity with nature from her readings of Nietzsche's *Birth of Tragedy* and *Thus Spake Zarathustra*.³³ Upon closer examination of

31 "Dort, wo das Wissen um die Dinge aufhört, wo nur das Erlebnis Gesetz ist, dort beginnt der Tanz. Nicht Gefühle tanzen wir! Sie sind schon viel zu fest umrissen, zu deutlich. Den Wandel und Wechsel seelischer Zustände tanzen wir, wie er sich in jedem Einzelnen auf seine besondere Art vollzieht und in der Sprache des Tanzes zum Spiegel des Menschen, zum unmittelbarsten Symbol alles lebendigen Seins wird."

32 Müller et al. interpret Oskar Müller's approach to dance as the following: "Der Tänzer war ihm die vollkommene Begegnung von Mensch und Raum, der 'Tänzer Mensch', wie er ihn nannte, nahm den ihn umgebenen Raum in sich auf und wirkte aus seinem Innern heraus auf ihn zurück" ("The dancer was to him the complete meeting of human and space, the dancing human, as he named him, absorbs into him the surrounding space and influences him in turn from within," 38)

33 Kimere Lamothe in *Nietzsche's Dancers: Isadora Duncan, Martha Graham, and the reevaluation of Christian*

Nietzsche's *Birth of Tragedy*, many elements central to his understanding of dance became crucial to the interpretation of dance in *Das Blumenwunder*. In the first half of the book, Nietzsche begins by privileging dance as a means toward “the highest intensification of his [man's] symbolic powers,” which can only be stimulated through a Dionysian aesthetic (21). Unlike the word or image in an Apollonian aesthetic, dance engages the entire body, which can respond to the Dionysian demands to express the “one-ness as the genius of humankind, indeed of nature itself” (21). The chorus, who danced and sang the Dionysian dithyramb in an Attic tragedy, was a medium, with which the spectator identified. Nietzsche described this moment of identification as a transmission of the feelings of the chorus to the crowd:

Dionysian excitement is able to transmit to an entire mass of people this artistic gift of seeing themselves surrounded by just such a crowd of spirits with which they know themselves to be inwardly at one. This process of the tragic chorus is the original phenomenon of drama - this experience of seeing oneself transformed before one's eyes and acting as if one had really entered another body, another character. (43)

Nietzsche is illustrating through the Attic tragedy a spectatorial experience similar to that of kinetic empathy, when faced with a group of dancers. This experience lends itself to a feeling of connection with fellow spectators, with nature and with the primordial being. In essence, he is describing an embodied language, and privileging it over conceptual language, as do the final three acts of *Das Blumenwunder*.

Indeed, the dances in *Das Blumenwunder* clearly took part in this broader discursive context. Daisy Spies, the dancer who imitates the hyacinth blooming in the film, was an instructor and choreographer at the Mary Wigman School of dance, who also performed in

Values solidly connects Duncan's writings and specifically her use of the term Dionysian to Nietzsche's use of dance metaphor in *Birth of Tragedy* and *Zarathustra* (113-4)

Oskar Schlemmer's "Triadic Ballet." Max Terpis, who performs an abstracted rendering of a flower blooming and wilting, was at the time of the film the director of the Berlin State Opera Ballet and a former student of Laban. It was under his direction that the Berlin ballet corps performed in *Das Blumenwunder* an unusual flower dance far from the tenets of classical ballet.³⁴

As dance comes to define the film during the last three acts, there is also a clear progression leading from mimesis of the natural world through dance to haptic perception of plants and dance and lastly, to a call to the viewers to actively participate. Distinguished from the second act by an intertitle, the third act initially leaves viewers to meditate on a series of time-lapse images of blossoming flowers, which express their creative will in the act of unfolding, now unhindered by an interfering, disembodied hand. This meditation is broken only by an image of a snake and two dances, the hyacinth with Daisy Spies, and an unidentified flower dance with Elizabeth Grube. In both dances and the comparison of the snake, the similarities in form are highlighted as dissolves allow their shapes and movements to be momentarily matched with the flowers. Interrupting the flower images in a manner similar to the dancers, the movement of the snake is graphically matched with the root of plant seeking nourishment and conveys the plant's connection to the animal world. Just as Nietzsche, Laban and others believed, movement here serves to reunite people with the natural world that includes the gestures by animals. Conditioned by Flora to see similarities in images, the viewer comprehends analogies between the dancer's movements, the snake and the plants. Furthermore, the art and will of the flower blooming resembles the will of the snake slithering on its way and the dancer, attempting to understand the

³⁴ Blankenship interprets this group dance as representative of Max Terpis's retreat from sheerly beautiful imitation of harmonic natural forms and also of a tendency within modern dance at this time to also reflect spiritual distortion (101).

flower through dance.

The first dance, the hyacinth by Daisy Spies, is a particularly powerful moment of mimesis designed to convey a unity of expression with the natural world [Figure 19]. Spliced into the middle of a hyacinth blooming, Spies' dance appears seamlessly to continue the flower's creative act of opening in addition to matching its movement and form. Just as the flower performs in the film studio with a black background, so Spies performs on stage against a dark background. In dance as well as through the film form, her movements are chosen to mirror nature. Her hands, bent sharply at the wrist, echo the hard angles of the hyacinth's petals just as each of her subsequent gestures closely follows the movements of the flower blossoming. In place of the antagonistic relationship embodied by the scientist's hand in the previous act, the film now shows us the productive power of the earth and the stage, where both the dancer and the flower resist objectification. By 'becoming flower' on the screen, Spies thus recalls Walter Benjamin's "Doctrine of the Similar", according to which, "[t]he gift which we possess of seeing similarity is nothing but a weak rudiment of the formerly powerful compulsion to become similar and also to behave mimetically" (69). Seen within this context, Spies' dance, in the midst of the hyacinth blooming, initiates in the viewer the drive to see similarities between the creativity of dance and the flower blooming, and thus awaken memories of an experiential mode in which nature was perceived as having its own 'life' or subjectivity.

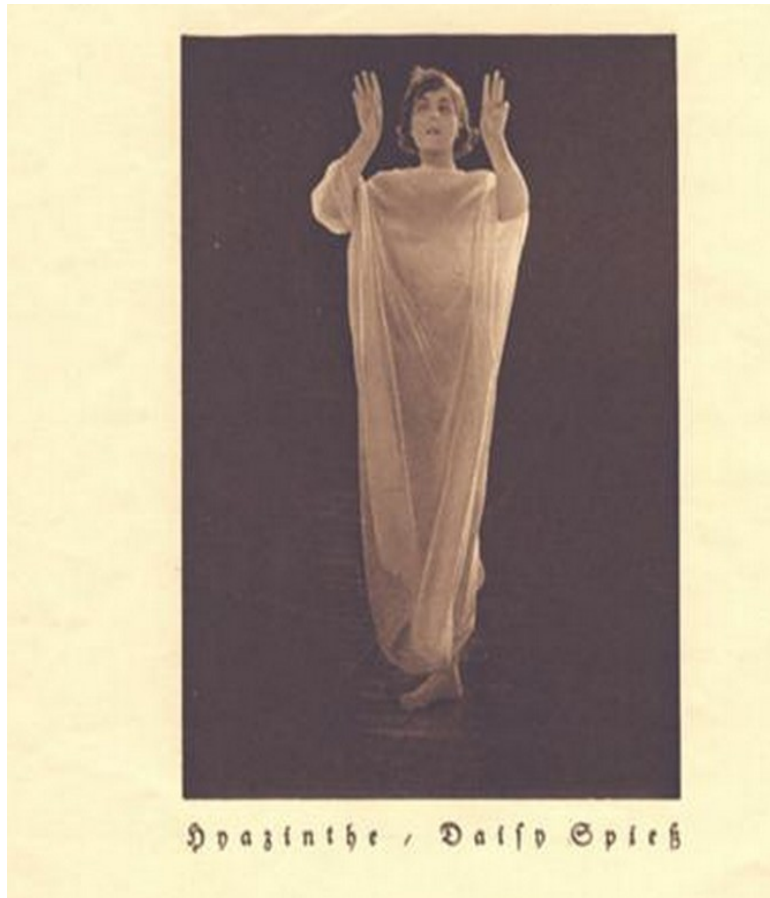


Fig. 19. Hyazinthe, Daisy Spieß from Souvenir Program, 1926. *Archiv der Deutschen Kinemathek*. *Arte.tv*. Web. 18 Nov 2013.

However, the dancers' response to the gestures of flowers in the film is not limited to simply parroting the plant, but rather seeks to transpose the plant's movements into a new bodily language. Transposing nature's forms means retaining the sensuous and recognizable link to nature, instead of abstracting from the physical experience of the natural world like conceptual language. While the fourth act also foregoes explanatory titles and intertitles, the shift from mimesis and unity in nature to bodily language distinguishes it from the third. In this section, three dances by the Berlin state opera, Max Terpis and Stefa Kraljewa as well as an image of man speaking and waving his hands, seek to express the experience of being a plant beyond imitating the movement made visible

through film. With the help of film, the visual analogies between the dancers and the flowers reveal the expressivity of plant movement, leading to the rudiments of a bodily language. Occurring part way through the act, the interaction of the image of an excited man gesturing while speaking with the subsequent image of a twitchy plant growing is one example of how the emotional register of gesture is transferred to the images of plants.

The potential combination of dance and film as bodily language finds its fullest expression in the group dance by the Berlin state opera ballet corps. In their ballet, the group dancers transpose the flower movements in a manner similar to Max Terpis and Stefa Kraljewa, but here the sensual effect is compounded through film techniques and the extended possibilities of a group of dancers. Instead of remaining in one position like the rooted plant (as did other dancers), the ballet dancers extrapolate plant gestures into forming rings and other patterns seen in the structure and movement of plants. As a group of dancers moving together, they also simulate the interaction of plants with one another and with different parts of themselves. Similarly, slow motion takes of a dancer leaping [Figure 20] and a medium shot of a dancer twirling surrounded by others further breaks down the flowing dynamic of the natural world into comprehensible parts.³⁵ Similar to the chorus in Greek tragedy, the group dance also permits spectators to place themselves amongst the dancers and experience through kinetic empathy unity within an ecology. In the context of the film, the use of slow motion shows the heaviness of the slow struggle upwards of the plant and its rootedness in the earth. The slow motion also creates a sense of the plant's heaviness in the viewer. The heliotropic striving of a plant and the effort it takes to blossom is felt by the viewer as heaviness. Thus, film technique is implicated in

35 Blankenship interprets the shift from fluid movement to slow-motion heaviness as indicative of the *Zeitgeist* and of Max Terpis' aesthetic inclinations towards ugliness (101). This appearance of heaviness, she describes, could also be indicative of Terpis' wish to extricate his choreography from the ethereal lightness of classical ballet.

simulating the experience of plants as both a language of movement and as an experience of that movement. The haptic visuality of film and the kinetic empathy of dance combine to create a visual aesthetic envisioned by Balázs.³⁶



Fig. 20. Dancers Leaping in Slow Motion from *Das Blumenwunder*. scene still. BASF AG, Unterrichtsfilm, Verlag wissenschaftlicher Filme, 1922-26. *Filmarchiv-Bundesarchiv*.

³⁶ A similar moment occurs in another popular Weimar film, *Wege zur Kraft und Schönheit* (1925) with a group of dancers. The film techniques express an affinity with nature, however, differ from *Das Blumenwunder* with respect to the level of overt preparation the audience receives and the integration of dancers and nature. At the beginning of the fourth section, titled “The Dance” (“Der Tanz”), dancers are superimposed upon a forest scene with yet more dancers sitting in the trees and dancing in a circle far in the background. The dancers’ movements present a striking likeness to the waving branches of the trees to the point where it becomes difficult to discern where their bodies end and where the trees begin. Like in the earlier images from the Loheland school, dancers are presented as mirroring the natural rhythms, but here the film technique unifies the dancers with nature. Like the dancers from the Berlin state opera, an embodied language is not just confined to the bodily gestures, but also encompasses film gestures.

This bodily language then provides the basis for the film's final appeal to the spectatorship in the fifth and final part, where a combination of haptic and optical visuality induce the viewers to project themselves onto the screen and translate for themselves the flower movements. Unlike the previous two sections, the last act returns in a modified way to conceptual language by beginning with an intertitle, "The Song of Becoming and Passing Away" ("Das Lied vom Werden und Vergehen"). As compared to the intertitles in the first and second act, however, language here draws on the discourses of music as the language of the soul and in no way diminishes the embodied nature of the following images. Beginning the act, a dancer, depicting the life and death of a flower, performs one last example of bodily communication with plants for the viewer. Dancer Herbert Haskell expresses the death throes of a plant through passionate arm movements as he crumples to the floor. The subsequent flower images are no longer interspersed with dances or other image clues, but rather only with images of the garden – now empty of other people. If the return of the garden reminds the viewer of the unnatural death of the flowers at the hands of the girls from the film's opening, it also suggests a blank screen. The empty rows of flowers, that is, are like the blank spaces in an exercise sheet, into which the viewer can project herself. The kinetic empathy the viewer experienced through the paired gestures of flowers and dancers in the earlier scenes now translates into an aesthetic practice of empathy where the viewer can apply what she has learned in the absence of intermediary figures.³⁷

37 Such intermediary figures were not limited to bodies on the screen. At the premier of *Das Blumenwunder* in Breslau on June 4th 1926, the screening was followed by Ursel-Renate Hirt's performance of three flower dances set to music by Strauss, Poldini and Gounod and inspired by nature poetry by Goethe and Felix Dahn. Her addition to the program is reminiscent of Nietzsche's Dionysian aesthetic, which privileges poetry, music and the body as the gates to a unified experience with nature. Like the chorus in the Attic tragedy, she has the potential to stimulate the audience to feel the psyche, the soul and the humour of flowers. Through dance she reinforces the creative will inherent in an embodied language as it also appears in nature.

The images of flowers blossoming and wilting in the last act are meant to evoke the feelings of a plant struggling to live and die in the viewer. There is evidence that time-lapse images of plants from the 1920s evoked this kind of physical sensation in their audiences, beyond the sensation of touch provoked by images of textures already recognized by Marks and Sobchacks as haptic visuality. As French author Sidonie-Gabrielle Colette recalls from screenings in the 1920s, the animal-like movement of plants projected in time-lapse were felt so intensely by children in the audience that they were then compelled by the sensation to copy the plant movement:

A “fast motion” documentary documented the germination of a bean [...] At the revelation of the intentional and intelligent movement of the plant, I saw children get up, imitate the extraordinary ascent of a plant climbing in a spiral, avoiding an obstacle, groping over its trellis: “It’s looking for something! It’s looking for something!” cried a little boy, profoundly affected. He dreamt of a plant that night, and so did I. These spectacles are never forgotten...³⁸ (qtd in Blankenship: 88, 61)

In imitating the plant's movements, the children recognize the bodily language as meaningful and translate the movement into conceptual language. The viewing experience described by Colette is a complex mix of physical and conceptual realities barely indistinguishable from one another. The switching between optical visuality and haptic visuality in the last Act of *Das Blumenwunder* expresses the complexity of the film viewing experience.

In its progression from articulated language to mimetic understanding of plant life and ultimately a language of the body, *Das Blumenwunder* rehearses an interrogation of conceptual language and its ability to convey authentic experience that was part and parcel

38 I first came across this description in Blankenship's article on *Das Blumenwunder*. Colette's observation proved to be the seed for my reading of this film as particularly geared for interactive viewing. It is clear that the time-lapse images of plants growing were not just seen by the children but also felt.

of modern European aesthetics. As Maurice Maeterlinck explained it already twenty years before *Das Blumenwunder* in his *Treasure of the Humble*: “How strangely do we diminish a thing as soon as we try to express it in words! We believe we have dived down to the most unfathomable depths, and when we reappear on the surface, the drop of water that glistens on our trembling finger-tips no longer resembles the sea from which it came” (77). For symbolist poets such as Maeterlinck, the act of writing involved a constant struggle against language – its automatisms, its conceptual categories and its syntactical parceling of reality into grammatical objects and subjects – in order to convey an experience lying just beyond the limits of language's grasp. Within this context, visual media such as dance and film began to hold out a particular appeal as alternatives for conveying non-linguistic experience. Thus it should come as no surprise that writers such as Hugo Hofmannsthal – who penned perhaps the most compelling account of the crisis of conceptual language in his *Ein Brief* (*A Letter*, 1901) – would turn to these media in works such as *Das fremde Mädchen* (*The Strange Girl*), Hofmannsthal's 1911 pantomime that was made into a film with the dancer Grete Wiesenthal in 1913.

Taking up this struggle with articulated language, *Das Blumenwunder* stages the gradual elimination of titles to suggest that a dynamic and embodied language is better suited to the experience of “plant life,” even as the film acknowledges that the experience it offers is still a mediated one. By returning as close as possible to a direct experience of plants through mimesis, the film also suggests that all forms of mediation from art to language to even technology are rooted in the natural world. Understanding ourselves then would begin by returning to this initial moment of mimesis. This film asks its viewers not only to see the similarities on the screen but then to dance these movements in an effort to

understand the miracle of life - the experience of a flower as it blooms and wilts – in a mode going beyond the conceptual grasp of scientific knowledge.

A recent travelling exhibition (2002-2011) designed by the Science Museum of Minnesota, *Playing with Time*, takes the interactive engagement of films like *Das Blumenwunder* a step further. One station of the exhibit invites the museum visitors to step into time-lapse images of growing plants through the use of green screen technology and to imitate the movements of the plants. The visitors can then view themselves “dancing” with the plants projected onto a screen [Figure 21].



Fig. 21. Dancing with Plants from Science Museum of Minnesota: St. Paul. Web. 6 Jan 2014.

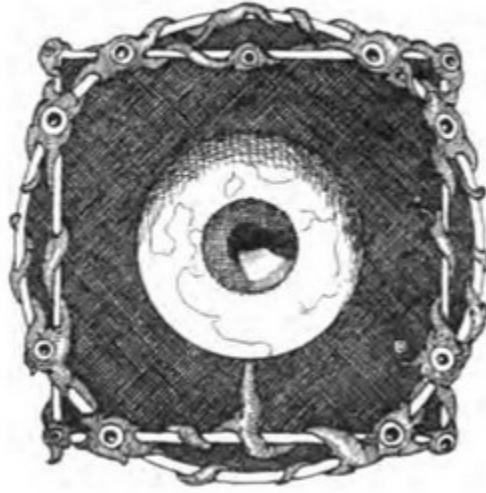


Fig. 22. Eye Illustration from André Lambert, “Die Pflanzen des Doktor Cinderella,” *Wachsfigurenkabinett* by Gustav Meyrink. München: Albert Langen, 1908. 203. *Internet Archive*. Web. 17 Jan 2013.

Chapter 3

The Radical Other: The Metamorphosis of Humans and Animals into Plants in Gustav Meyrink's “Die Pflanzen des Doktor Cinderella” (1905)

And everything appeared as parts, taken from living bodies, put together with an inconceivable art, robbed of their human soul and suppressed down into pure vegetative growth.

(“Die Pflanzen des Doktor Cinderella”)

This chapter marks a shift in focus from uplifting and utopian portrayals of plants to plants as monsters [Figure 22]. Since Darwin introduced insectivorous plants to the broader public in 1875,¹ their unusual behaviour for plants quickly drew attention and piqued the imagination of writers, filmmakers and artists, inspiring many representations of these plants that emphasize their deviant and monstrous qualities. The popular name for insect-eating plants, carnivorous or meat-eating plants, reflects the resonances these plants had in

¹ Charles Darwin published his book on insectivorous plants, *Insectivorous Plants*, in 1875 with an American and British printing, followed by a second edition in 1888.. The English version was swiftly followed by a German translation, *Insectenfressende Pflanzen* in 1876 and a French translation, *Les plantes insectivores*, in 1877.

the public imagination as predators.² As one of the foremost specialists in esoteric and fantastic fiction, Gustav Meyrink seems to have been particularly drawn to the combination of plants as predators, returning to the vampiric plant in at least three short stories. One of these stories, “Die Pflanzen des Doktor Cinderella” (“The Plants of Doctor Cinderella,” 1905),³ imagines carnivorous plants as blood-sucking, meat-eating monsters without any physical resemblance to the insectivorous plants Darwin found so intriguing. Instead, his carnivorous plants are composed of human and animals body parts that have been reduced to the base function of plant growth. In this chapter, I argue that Meyrink's complex story imagines the grotesque and monstrous plants as a consequence of two seemingly disparate approaches to understanding life, the occult and medical sciences, which share a Cartesian dualism of mind and body.

Some of the challenges to interpreting Meyrink's story lie in his interweaving of science and the occult, and the resulting fragmented narrative and narrator. The narrative deliberately misleads the expectations of the reader, before eventually revealing that the narrator and the evil scientist “Dr. Cinderella” of the story's title are in fact one and the same person. The narrator, plagued by mental blanks,⁴ tells a murky story of how he came to be in his current situation, mentally and physically crippled. He blames it on a statue, “the bronze” (“die Bronze”), that he accidentally found buried in the sand while in Thebes, Egypt. The statue is a likeness of the ancient Egyptian god, Anubis, in a particular pose that is said to imitate a hieroglyph. After finding the statue and returning to Europe, the narrator

2 In German, these plants are called either “Fleischfressende Pflanzen” or “Karnivoren.” As an English native speaker, the first name recalls for me the English word “flesh” even though the word technically means “meat”, giving the name a particularly grotesque character.

3 The short story was first published in *Simplicissimus* in 1905. Later, the story was included in a collection of short stories called *Wachsfigurenkabinett: Sonderbare Geschichten*. (*Wax Figure Cabinet: Strange Stories*),

4 The narrator calls this “geistesabwesend” which literally means absent minded.

is caught by an incredible curiosity that insatiably drives him to unlock the statue's secret. After imitating the statue's pose, he begins to have periods of lost time – suffers from mental blackouts – and has visions of mysterious, phantasmic figures. One night, while wandering the streets, he is drawn to a house and enters it. There, he discovers a grotesque laboratory filled with carnivorous plants that had been pieced-together from animal and human body parts: “What I ever felt of fear and horror was nothing in comparison to this glimpse. [...] The wall was covered with a net of tendrils - blood red arteries, out of which swelled hundreds of staring eyes like berries (82).⁵ In horror, he rushes out of the house, collapses and is helped by a police officer to the commissioner's office, where he learns his name, Dr. Cinderella, and that he is known around town for breeding new types of carnivorous plants, the *Nepenthes* and the *Drosera*.⁶ After that night, he is never again able to find the house with the carnivorous plants, no one from the commissioner's office knows of the incident, and he has been left lame on one side of his body.

The type of carnivorous plants at the centre of “Die Pflanzen des Doktor Cinderella” seem to have formed a recurrent motif in Meyrink's work. Vampirism and plants are first brought together in an earlier story by Meyrink, “Bologneser Tränen” (“Bolognese Tears”), published in a short story collection from 1903. The title of the collection, *Orchideen: sonderbare Geschichten* (*Orchids: Strange Stories*), refers to the main female character, Mercedes, who briefly transforms into an orchid: “In this moment, let loose from the dark,

5 “Was ich je an Furcht und Grauen empfunden, war nichts gegen diesen Augenblick. [...] Mit einem Rankennetz blutroter Adern, aus dem wie Beeren hunderte von glotzenden Augen hervorquollen, war die Mauer bis zur Decke überzogen.”

6 The *Nepenthes* and the *Drosera* refer to actual carnivorous plants, which digest insects. The *Nepenthes* is commonly called a pitcher plant, because it lures insects to the slippery edge of its trap that resembles a pitcher. The insects then fall in and are digested by the plant's juices. The *Drosera* is commonly known as the Sundew because of sticky and sweet-smelling drops at the ends of stalks that resemble dew. Insects that brush against these stalks are caught, gradually enveloped by the stalks and digested. The plants described in Meyrink's story in no way resemble these two carnivorous plants.

tangle of leaves, rose up a huge orchid, - the face of a demon with longing, thirsty lips, - without a chin, only dazzling eyes and a gaping, blueish seam. This plant face shook on its stalk, swaying in wicked laughter and staring at Mercedes' hands [...] “Do you believe that orchids can think?” (80).⁷ The sexualized and demonic description of an orchid blossom attributes Mercedes' human characteristics to a plant, while the subsequent description gives her vague plant-like qualities: “And she was an orchid queen, this Creole woman with her sensuous, red lips, the soft, greenish shimmer of her skin and her hair the colour of dead copper” (80).⁸ She vacillates between a human-like plant and a plant-like human whose seductive blossom-face masks the deadly threat of her snake-like body hiding underneath. Her attraction mirrors the elaborate beauty used by an orchid in nature to attract insects in order to pollinate, and in turn, reflects on the orchid's charms as vampiric.⁹ In this story, Meyrink blurs the boundary between human and plant, exposing the threat powerful and deadly female sexuality poses to masculine power and normalized gender roles.

The intersection of plants and vampires reoccurs in a third story by Meyrink, “Der Kardinal Napellus” (“The Cardinal Napellus”), as a warning against false religions. First published as a part of a short story collection, *Fledermäuse (Bats)* in 1916, the story follows the experience of a monk, Radspieler, when he joins a group of monks. Known as the Blue Brothers (Blaue Brüder), the monks breed a plant with blue flowers referred to as

7 “In diesem Augenblick schnellte, losgerankt aus dem Dunkel des Blättergewirres, eine riesige Orchidee, - das Gesicht eines Dämons, mit begehrlchen durstigen Lefzen, - ohne Kinn, nur schillernde Augen und ein klaffender, bläulicher Saumen. Dieses Pflanzengesicht zitterte auf seinem Stengel; wiegte sich wie in bösem Lachen, auf Mercedes Hände starrend. [...] Glauben Sie, daß Orchideen denken können?”

8 “Und sie war eine Orchideenkönigin, diese Kreolin mit ihrer sinnlichen, roten Lippen, dem liese grünlichen Hautschimmer und dem Haar von der Farbe toten Kupfers.”

9 Several orchid species mimic the appearance of a receptive female insect, tricking the male into mating with the flower. For example, the *Catasetum* orchid gives off the an attractive scent for male bees, who collect it. Male flowers have the added effect of “violently” attaching a pollen packet to the back of bees, causing the bees to avoid the plant in the future (Alcock 42)

monkshood as well as the Latin, *Aconitum napellus*, which causes a trance-like state giving the appearance of death (“Scheintod”). The plant in the story refers to an actual poisonous plant with the same name, giving the story some basis in the botanical sciences. Each monk is attached to a particular plant, which lives only through ingesting the monk's blood in a garden adjacent to the cloister: “Behind the walls of the cloister is a garden, in which a flower bed blooms in summer full of those deadly herbs, and the monks water them with blood that flows from their flagellation wounds. Each one, if he is a brother of the community, has such a flower to plant, that then, like in baptism, receives his own Christian name.”¹⁰ Gradually, it becomes apparent to Radspieler that the poison produced by the plants does not lead to a greater spiritual enlightenment but rather to death and he leaves, seeking the mysteries of life in watery depths. The plant and his experience at the cloister continue to haunt him for the rest of his life and eventually drive him to insanity. Meyrink interweaves the romantic motif of the blue flower – well known from Novalis's novel *Heinrich von Ofterdingen* – with the deadly biology of monkshood – ingesting the flower's poison and feeding the plant with their blood. Through Radspieler, Meyrink criticizes idol worship that calls for self-abnegation.

Plants, vampires and the occult tie together “Bologneser Tränen,” “Der Kardinal Napellus” and “Die Pflanzen des Doktor Cinderella.” More precisely, as Amanda Boyd argues, all three stories point to the dangers of occult practices through the common figure of the vampire. In “Dr Cinderella's Plants” specifically, Boyd reads occult practices as responsible for the fragmenting of Dr. Cinderella's mind and body (608). Meyrink's

10 “Hinter den inter den Klostermauern liegt ein Garten, darin blüht im Sommer ein Beet voll von jenem blauen Todeskraut, und die Mönche begießen es mit dem Blut, das aus ihren Geißelwunden fließt. Jeder hat, wenn er Bruder der Gemeinschaft wird, eine solche Blume zu pflanzen, die dann, wie in der Taufe, seinen eigenen christlichen Namen erhält.”

fascination with the occult has been well documented and its role in his many short stories and novels, thoroughly examined. He belonged to many organizations that pursued with conviction a deeper meaning hidden beneath the surface, yet maintained a vibrant scepticism and wit (Lachman 209). Meyrink extended the reach of his critical and satiric gaze beyond the confines of the occult to warn against other idols in society. The demonizing of plants common to all three stories is also intriguing for their role in qualifying his critique.¹¹ Meyrink recognizes the potential affective power of inverting the perception of plants as passive into predators for a horrifying effect. Additionally, his portrayal of plants as dynamic and active resonates with changes to the perception of plants at the end of the 19th century.¹²

Plants as monsters and specifically vampires is by no means an arbitrary choice and reflects on the peculiar position of plants as alive yet clearly inhuman. Plants have been consistently placed on the hierarchy of being as closer to crystals and other seemingly inanimate forms because they are perceived to be missing the parts that represent animal and human life. Blood, breath, movement and a mind have long indicated life within Aristotelian and Judeo-Christian traditions of thought and give reason for plants to be set apart from animals and humans as inferior beings and soulless (Hall 61). In contrast, the shared faculties of animals and humans give rise to the perception of similarity. Matthew Hall, a scholar interested in the relationship of plants and humans, calls the plant in this role the radical other – perceived as being fully non-human.

11 Other short stories, in which plants play a significant role, include: “Meister Leonard” (Master Leonard), “Die Urne von St. Urne von St. Gingolph” (The Urn of St. Gingolph) and “Blamol.”

12 After Darwin published in 1875 the second edition of *The Movements and Habits of Climbing Plants* and *Insectivorous Plants*, both subsequently translated in to German, there followed a surge of interest in the movement of plants as examples of similarities between plants and animals, including sensitivity to the environment and animal-like movement. One such example comes from Viennese scholar, Alois Pokorný's, lecture from 1878 regarding the life of vines on Darwin's work.

When benign plants become blood- and fat-sucking monsters as in Meyrink's story, "Die Pflanzen des Doktor Cinderella," their position as the other is paradoxically emphasized and problematized, giving rise to the question of what it means to be human. Dr Cinderella has pieced together vines with berries from veins and eyes, mushrooms from fat and skin, and a pine cone from human fingernails. Their parts are identifiable as from humans and animals as exemplified in description of the pine cone as made "from rosy human fingernails!" ("Tannenzapfen aus rosigen Menschennägeln!," 84), and the discovery of a man's body with the "fingernails ripped out" ("die Nägel ausgerissen," 85). Similarly, the narrator's description of the eyes identifies a variety of human and animal sources: "Gruesome, countless eyeballs glittered in between,¹³ which alternating with hideous, blackberry-like bulbs spurted up and slowly followed me with their gaze as I went by – eyes of all sizes and colours – from the clear-shimmering iris up until the light blue, dead, horse eye, which stood upward and unmoving" (83).¹⁴ The body parts, while derived from animals and humans, in no way transform the plants into the familiars of humans or animals. Instead the narrator is physically repulsed by what he sees: "Every fibre of my body cried out in indescribable horror" ("Jeder Fiber meines Körpers brüllte auf in unbeschreiblichem Entsetzen," 82). On the surface, the horrifying effect can be directly attributed to the transformation of ordinary plants into carnivorous ones in addition to gruesome experience of seeing human bodies in pieces. Yet, the gruesome plants also stand for the subversion of the hierarchy of being that connects rational thought with the human body at the pinnacle. The image of human and animal body parts as plants draws attention

13 Eyeball is closely connected to fruit in German, literally translated as eye-apple.

14 "Grausig glitzerten dazwischen zahllose Augäpfel, die in Abwechslung mit scheußlichen, brombeerartigen Knollen hervorsproßten und mir langsam mit den Blicken folgten, wie ich vorbeiging. - Augen aller Größen und Farben. - Von der klarschimmernden Iris bis zum hellblauen toten Pferdeauge, das unbeweglich aufwärts steht"

to the predatory behaviour of carnivorous plants as unplant-like and causes human and animals to be seen as plant-like.

The animal-like movement of Dr. Cinderella's plants draws on discourses surrounding movement and plants that reconsider the distinction between plants and animals as well as the perception of life in plants. The narrator viscerally experiences the life in plants as animal-like: "The inconceivable was only that these plants, or what they otherwise might be, felt blood warm and brimming, and wholly made a fully animal impression on the sense of touch" (81).¹⁵ As with animals, the plants' movement is a clear indication of life for the narrator: "That there was life in them, I clearly recognized, when I closer lit the eyes and saw how the pupils immediately tightened" ("Daß Leben in ihnen war, erkannte ich deutlich, wenn ich die Augen näher beleuchtete und sah, wie sich sofort die Pupillen zusammenzogen") (84). Movement is a reoccurring feature of Dr Cinderella's plants: The eyes have a "twitchy movement" ("zuckender Bewegung"), and the mushrooms made of fat and skin, "winced at every touch" ("bei jeder Berührung zusammenzuckten") (84). The animation of these plants recalls a common argument for plants as living beings popular in the mid 19th century and the fin de siècle: Gustav Fechner, Maurice Maeterlinck and Raoul Francé among others saw movement as characteristic of plants, often using discernibly sensitive plants like the *Mimosa pudica* and the many carnivorous plants as examples of plant sentience. Charles Darwin, in his book on climbing plants, refers to movement as one of the "vague" assertions of difference between plants and animal.¹⁶ The

15 "Das Unbegreifliche war nur, daß sich diese Pflanzen, oder was es sonst sein mochte, blutwarm und strotzend anfühlten und überhaupt einen ganz animalischen Eindruck auf den Tastsinn machten."

16 Darwin sees movement not as intrinsic to animals, but rather as a characteristic that has an evolutionary purpose: "It has often been vaguely asserted that plants are distinguished from animals by not having the power of movement. It should rather be said that plants acquire and display this power only when it is of some advantage to them." (206).

many nature films from the early 20th century, including *Das Blumenwunder* made use of film's capacity to shorten time and to speed up the imperceptible movement of plants revealing the presence of an uncanny resemblance to animals. These scholars, writers and filmmakers frame plant movement as a part of the natural world and a point of similarity between animal, human and plant life. In contrast, Meyrink's story frames the animation of Dr. Cinderella's plants as the unnatural work of an anatomist and as the result of transferring human and animal life to plants. In the descriptions of Dr. Cinderella's laboratory, life appears in its most basic form, blood and movement, without preserving the soul.¹⁷ Movement, rather than becoming a point of similarity, becomes a moment of difference.

The plants become monstrous because they blur the boundaries between humans and plants, while emphasizing difference. Scholar Jeffrey Cohen argues in his analysis of monsters that one of their functions is to threaten the stability of identity through their challenge to categories of being. Though the plants in Meyrink's story are composed of human and animal parts, they have robbed these parts of their humanity: "And everything appeared as parts, taken from living bodies, put together with an inconceivable art, robbed of their human soul and suppressed down into pure vegetative growth" ("Und alles schienen Theile, aus lebenden Körpern entnommen, mit unbegreiflicher Kunst zusammengefügt, ihrer menschlichen Beseelung beraubt, und auf rein vegetatives Wachstum heruntergedrückt," 84). The narrator perceives the plants as having been artificially constructed and reflects the assumption that plants do not have a soul, recalling Aristotle's tripartite soul that recognizes in plants only a nutritive soul as compared to the

17 The plants are not the only supposedly inanimate objects that have come alive: "Aus dem Nebel taucht ein Haus – mit abgebrochenen Schultern und zurückweichender Stirn, und glotzt besinnungslos aus leeren Dachlocken zum Nachthimmel auf wie ein verendetes Tier" (78-79).

perceptive soul in animals and the rational soul of humans.¹⁸ Through the animal and body parts, the plants have acquired animal life as represented in blood and movement, but are missing the soul as represented through the breath and mind. In the Judeo-Christian tradition, the soul has been commonly associated with the breath of life – at once linking the soul to the insubstantial, air, and to a movement not associated with plants (Hall 57).¹⁹ The vivisection of human and animals and the reconstruction of those parts as plants makes a profound statement on what it means to be human, a tangled combination of body and spirit.

The eyes of the plants are a particularly powerful expression of humanity reduced to mere substance. A wall of eyes is the first thing the narrator encounters in the laboratory, and is introduced with three separate qualifications of the horror that he experiences at the sight of those eyes (82). His horrified reaction is caused by the evidence of a sentient plant that responds to him but is missing a soul: “The one [an eye], which I just grabbed, still sprang in twitchy movement to and fro and squinted at me maliciously” (“Das eine, in das ich soeben gegriffen, schnellte noch in zuckender Bewegung hin und her und schielte mich böse an,” 82). On account of their movement, the eyes are perceived as alive and aware by the narrator, but instead of offering a glimpse of a benign plant soul, they give the narrator the evil eye. While Dr. Cinderella has transferred animal and human life to plants, he has not succeeded in transferring the soul. Instead, the plants represent merely “vegetative growth.” The narrator perceives human and animal eyes reduced to a reflection

18 Aristotle defines the plant soul as: “Since nothing is nourished which does not partake of life, what is nourished will be the ensouled body insofar as it is ensouled, with the result that nourishment (i.e. food) is related to the ensouled, and not coincidentally” (qtd in Shields: np). He seems to mean that food distinguishes inanimate objects from animate. The nutritive soul is common to all living beings, yet just a step up from inanimate objects.

19 Breath also distinguishes Meyrink’s monstrous plants from the dynamic living plants in Scheerbar’s short story, “Flora Mohr: Eine Glasblumen-Novelle.” While Scheerbar’s plants do not breathe, their creator, Wilhelm Weller has attempted to breathe life into them and therefore, give them a soul. See chapter one page 17 for a discussion regarding the role of Weller as the creator of living, ensouled plants.

of the inner life of a plant as demonic and soulless.

The demonic, soulless plants reflect one of the perceived fundamental differences between plants, animals and humans during the 19th century. Eduard Schmidlin's book on popular botany from 1867 is characteristic of how plants and animals are differentiated through movement, anatomy and the presence of a soul. He writes:

The changes in growth and shape occur in the animal through the transformation of the old into the new, not as with the plant through the adding of the new to the old, and from this different way of growing [...] Out of these differences in the development of form in animals and plants comes the distinct capacity of animal development – the ability to sense and initiate movement, which forms the basis for the activity of the soul. [...] A life, however, that never is a complete whole, but rather continues in a succession of parts, that according to their formation, without renewing themselves, die again, like the plant, can be capable of neither awareness nor self-initiated movement. (7)²⁰

Schmidlin connects the basis of a soul, sensitivity to the environment and self-initiated movement, to the completed form of the animal, while arguing that the uncompleted form of the plant is irrevocable proof against the presence of a soul. In “Die Pflanzen des Doktor Cinderella,” the role of the human and animal parts has been transformed from a part of completed whole that forms a basis for a soul to individual pieces to which more can always be added. The pieces, which can never form a complete whole, also cannot provide the basis for a soul. Through this distinction, the story presents life in plants as fundamentally different from and inferior to life in humans and animals.

20 “Das Wachstum und die Gestaltveränderung geschehen also bei dem Thiere durch Verwandlung des Alten in das Neue, nicht wie bei der pflanze durch Hinzufügen des Neuen zum Alten [...] Auf diese einschneidenden Unterschiede in der Formentwicklung beruht endlich auch die Fähigkeit der thierischen Bildung, die Unterlage seelischer Thätigkeiten, der Empfindung und selbstthätigen Bewegung, zu sein. [...] Ein Leben aber, das nie ein abgeschlossenes Ganze ist, sondern nur in einer Reihe von Theilen verläuft, die nach ihrer Bildung, ohne sich zu erneuern, wieder erstarren, wie eben die Pflanze, kann weder der Empfindung noch der selbstthätigen Bewegung fähig sein”

Meyrink's story equates the perspective of the anatomist with viewing human and animal life as equivalent to plants. Viewing bodies as pieces belongs especially to the perspective of the anatomist, whose work, dissecting, cutting into and taking apart resembles analyzing. The wounds on the dead man's body in the laboratory are described using the vocabulary of anatomy: "small knife cuts on chest and thighs show that he had been dissected [vivisected]" ("Kleine Messerschnitte an Brust und Schläfen zeigten, daß er seziert worden war," 85). The body parts have been, "pieced together" ("zusammengestückelt," 83), and with an, "incomprehensible art spliced together" ("unbegreiflicher Kunst zusammengefügt," 84). The way in which Dr. Cinderella reduces humans and animals to body parts is a criticism of anatomy for perceiving human and animal life as mere substance that can be taken apart and put back together rather than the combination of both the body and the mind.²¹

"Die Pflanzen des Doktor Cinderella" belongs to a collection of texts by Meyrink that criticize medicine and science. As Mohammad Qasim argues, several of Meyrink's main characters are doctors,²² who tend to either the comical or the uncanny. Qasim draws the conclusion that these figures form a critique of the sciences through satire and grotesque imagery, when they highlight the high-handedness of scientists and the latent ability of the modern sciences to manipulate people, producing neither machines nor

21 Meyrink's critique of the anatomist bears some resemblance to contemporary philosopher, Henri Bergson's views on intelligence and intuition from his book *Creative Evolution* (1911). Briefly and by no means comprehensively, the anatomist in Meyrink's story perceives the world analytically and quantitatively, yet this view of life cannot access the qualitative aspect – the vital impulse, what Bergson calls the *elan vital*. It could be argued that the soul or spirit in Meyrink's story corresponds to Bergson's concept of intuition. Instead of awaking intuition, Dr. Cinderella puts his to sleep when he imitates the statue in an occult rite. Meyrink's association of plants with the sleeping state of Dr. Cinderella also shares some affinities with Bergson's view of the consciousness of plants in his book *Creative Evolution*. While Bergson asserts that there is no definite distinction between plants and animals, he does argue that movement and consciousness sleep in the plant as recollections, when a plant regains mobility, it also regains an equivalent consciousness (117, 124)

22 In addition to *Dr Cinderella's Plants*, Qasim refers to "Das Präparat" ("The Preparation") and "Das Wachsfigurenkabinett" ("Waxworks").

humans, but rather monstrous constructions of both human and machine (84). In “Die Pflanzen des Doktor Cinderella,” the critique of sciences takes a slightly different perspective, divorcing human consciousness from the body, reducing it in the process to mere material. The plants, however, do not resemble machines, but rather lesser organisms incapable of possessing a soul - unnaturally created out of pieces from human and animal body pieces that once possessed a soul.

The disassociation of the narrator from Dr. Cinderella and his carnivorous plants points to a critique of materialism integrated within his critique of sciences. Meyrink was openly critical of materialism. In his essay on yoga, “Die Verwandlung des Blutes” (“The Transformation of Blood”), he writes:

The pure spiritual perspective will have captured a victory, when the person can harden himself and others, to the idea that there exists something more than just material. As the Vedanta and other similar systems of knowledge teach, it is a deception of the senses – to the apparent running away with the idea of materiality.²³

Meyrink sees materialism as a “deception of the senses,” believing in the existence of a spiritual world in addition to the one apparent to the senses. The title of his essay refers to his further belief that the spiritual world can influence the physical and transform it. The complicated blend of the occult and science in “Die Pflanzen des Doktor Cinderella” simultaneously defends the existence and potential threat of the spiritual world while criticizing materialism through the figure of the anatomist.

Meyrink's critique of science draws on the Romantic tradition of the mad scientist, whose experiments with life often reflect anxieties surrounding the medical sciences in

²³ “Der Sieg der rein geistigen Anschauung wird erst errungen sein, wenn der Mensch sich selbst und andern gegenüber praktisch erhärten kann, dass Materie an sich überhaupt nicht existiert, sondern, wie der Vedanta und andere ähnliche Erkenntnisssysteme lehren, eine Täuschung der Sinne bedeutet - zu scheinbarer Gegenständlichkeit geronnene Idee ist.”

periods of heightened anti-rationalist sentiment. Dr. Cinderella bears a special resemblance to two famous characters from 19th century Romantic fiction, Dr. Frankenstein and Dr. Moreau,²⁴ who also dissect bodies in order to assemble living creatures from their parts. Dr. Frankenstein composes a man out of parts from dead bodies, while Dr. Moreau forms hybrids from living animals and people. According to Rosalyn Haynes' typology of mad scientists, all two doctors are "victims of their own discovery," as is common to literature during periods of heightened anti-rationalist times (252). Both Frankenstein and Dr. Moreau die violently at the hands of their creations. Although the repercussions for Dr. Cinderella are less fatal, the laming of half his body as well as his mental fracturing carry symbolically the weight of what he has done. In Haynes' view, the predominance of these figures at the end of the 19th century suggests anxieties surrounding the manner in which science gained knowledge about the body as well as specific suspicions of the medical practitioner as a butcher. These stories are also tapping into the grisly history of the anatomical sciences, haunting graveyards and harvesting bodies for study. The characteristics that Dr. Cinderella shares with other mad scientist characters places him within the tradition of Romantic science fiction and also suggests a correlation between anti-rationalist sentiment and anti-materialism in the figure of the anatomist.²⁵

Dr. Cinderella's resemblance to Dr. Moreau suggests that Dr Cinderella is as much a monster as his carnivorous plants. As typical of Haynes', "mad, bad and dangerous" scientist, Dr. Moreau and Dr. Cinderella are isolated and obsessed with their research (252). As with Dr. Moreau, Dr. Cinderella's interest in the bronze statue causes him to seem

24 Mary Shelley's *Frankenstein or The Modern Prometheus* (1818) and H. G. Wells' *The Island of Dr Moreau*. (1896)

25 For a discussion of mad scientists in Romantic literature, see Chris Baldick. "Dangerous Discoveries and Mad Scientists: Some Late-Victorian Horrors" *In Frankenstein's Shadow: Myth, Monstrosity, and Nineteenth-Century Writing*. (Oxford Oxfordshire: Clarendon Press, 1987).

inhuman. He is overcome with a “sick curiosity” (“krankhaften Neugier”) and was never before so “thirsty for knowledge” (“wissensdurstig,” 72). He also describes his relationship to the statue as vampiric: “An uncanny feeling often overcame me with that: I am ruminating on something poisonous – something evil that with malicious pleasure lets me loose from the path of lifelessness only to suck at me steadfastly later like a terminal illness” (73).²⁶ Dr. Cinderella also comes across as asocial, speaking only with the police and the imagined reader: “Do you see, there [...]” (“Siehst du, dort [...],” 72). The vampiric overtones of his obsession with the bronze statue and his isolation associate the interests of an anatomist with vampires.

Meyrink draws an unusual link between anatomy and the funeral practices of ancient Egypt through the bronze statue, creating a chain of vampires. The bronze statue found by Dr. Cinderella in Thebes is a likeness of the god Anubis also known as the Wepwawet and is usually depicted as half-man and half-jackal. In ancient Egyptian myth, Anubis is often called the embalmer, presiding over mummification and funerary rites. He also acts as a guardian for the underworld, weighing the hearts of the recently dead before they are able to cross into the other world. On jars used for human organs in tombs, Anubis is often depicted standing on a water lily alongside two other animal-headed gods and a human-headed god. During the opening-of-the-mouth ceremony, a ritual intended to vivify the corpse, priests wore headdresses with the likeness of Anubis (Doxey, np). The narrator attributes the turn his life has taken to the statue of Anubis that acts on him like a vampire: “Like links of a chain, these haunting disturbances hang together that suck out the life force, and I follow the chain back into the past, always is the starting point the same, the

26 “Ein unheimliches Gefühl überkam mir oft dabei: ich grüble an etwas Giftigem – Böartigem, das sich mit hämischem Behagen von mir aus dem Banne der Leblosigkeit losschälen lasse, um sich wieder später wie eine unheilbare Krankheit an mir festzusaugen”

bronze” (“Wie Kettenglieder hängen diese gespenstischen Beunruhigungen, die mir die Lebenskraft aussaugen, zusammen, und verfolge ich die Kette zurück in die Vergangenheit, immer ist der Ausgangspunkt derselbe: die Bronze,” 72). The secret of the statue turns out to be what allows it to perpetuate itself, imitation: “A secretive, automatic imitation, an unaware, restless, - the hidden driver of all being!!” (“Ein heimliches automatisches Nachahmen, ein unbewußtes, rastloses, - der verborgene Lenker aller Wesen!!,” 74). The driver is further described by the narrator as a demon that demands, “that we be like him and become his likeness” (“der da will, daß wir ihm gleichseien und sein Ebenbild werden,” 74). The narrator is suggesting that Dr. Cinderella's secret activities are in imitation of the Anubis' function as the embalmer who takes bodies apart, as the one who can reanimate these pieces and as the one who can perpetuate himself. The carnivorous plants, sucking blood from vials and fat from bowls, come to resemble a repetition of the statue's feeding off of Dr. Cinderella's life force (84). As with Stoker's *Dracula*, the victims become vampires in a never ending cycle.

The manner in which Dr. Cinderella imitates the statue forms a critique of any occultist practices which result in dividing the mind from the body. According to Meyrink's essay on yoga, he understands the ecstatic state of being as in effect the departure of the mind from the body: “ecstasy literally means departure!” (“Ekstase heißt wörtlich: Austritt!,” 24). Meyrink warns against such practices, believing instead that the power of the soul lies precisely in the way it can positively influence the body: “The human soul lives in the body not for the sole purpose of leaving it like someone who has stumbled into a dead end, but rather to transform the material! (“Die Seele des Menschen lebt im Körper, nicht, um ihn zu verlassen, so wie einer umkehrt, dass er in eine Sackgasse geraten ist

sondern um die Materie zu verwandeln!," 15). Dr. Cinderella's misguided imitation of the statue's position produces a trance-like state and demonstrates the lasting fracturous effects of willingly dividing the mind and body. The first clue appears in the description of the statue's position, which Dr. Cinderella interprets as "some kind of unknown *ecstatic* state" ("irgendeinen unbekannten *ekstatischen* Zustand," 73, italics mine). The second appears in his description of what occurs when he correctly imitates the statue with his eyes closed: "And it is as if my consciousness followed it down a horrible set of stairs – two, four, eight, always leaping over more and more steps, - with that disappeared my memory of life, and the specter of the appearance of death lay over me" ("Und als ob mein Bewußtsein ihm nach eine ungeheure Treppe hinabfiele – zwei, vier, acht, immer mehr und mehr Stufen überspringend, - so verfiel ruckweise meine Erinnerung an das Leben, und das Gespenst des Scheintodes legt sich über mich," 75). Dr. Cinderella is describing the departure of his soul from his body as a result of an ecstatic state, which leaves his body soulless and reduced to mere materiality. The descent of his soul into nothingness foreshadows the reduction of the human and animal body parts into pure vegetative growth in the carnivorous plants. The practice of trances for the purpose of enlightenment begins to parallel the perspective of anatomical sciences – both see bodies reduced to mere materiality.

After Dr. Cinderella imitates the Anubis statue, its form reappears throughout the story creating a complex web of echoes between the occult, the plants, anatomical sciences and the police -- a motif that points towards the presence of the uncanny. The first occurs when Dr. Cinderella imitates the statue, initiating the fragmenting of his mind and body: "I then put away the ticking clocks and lay myself down, repeating the position of the arms

and the hands [...] Suddenly, for me it was as if there came up a reverberating noise from my inside, as if a big stone was rolling in the depths” (75).²⁷ The second occurs in the laboratory with the carnivorous plants when the dead man's body takes the form of the Anubis: “In the same blink of an eye, he appeared to slide two steps down onto me, stood there suddenly upright, the arms bent upwards, the hands to the scalp. Like the Egyptian hieroglyph, the same position – the same position!” (85).²⁸ The third occurs at the commissioner's office, when the scribe transforms into the Anubis: “There opened a door behind me, I turned myself around and there, a tall man stood with a heron beak – an Egyptian Anubis. My eyes went black before me and the Anubis bowed before the commissioner, went to him and whispered to me 'Doctor Cinderella'” (86-7).²⁹ And the last, when an employee's coat slides off the coat rack, its empty sleeves take the position of the Anubis' arms: “[...] and in going by, I brushed the employee's coat, hanging on the wall. It fell down slowly and stopped hanging by the arms of the coat. Its shadow on the chalk-white wall lifted the arms upwards, over the head, and I saw, as it intended without any help to imitate the position of the Egyptian statue (87).³⁰ As Freud writes in his essay on the uncanny, *Das Unheimliche* (*The Uncanny*, 1919), repetition is a function of the uncanny as a return of what is repressed – both the possibility of reviving the dead, in this case the human and animal body parts as plants, and Dr. Cinderella's deathlike appearance when

27 “Stellte dann die tickenden Uhren ab und legte mich nieder, die Arm und Handstellungen wiederholend [...] Plötzlich war mir, als käme ein hallendes Geräusch aus meinem Inem empor, wie wenn eine großer Stein in die Tiefe rollt”

28 “Im selben Augenblick schien er zwei Stufen herunter auf mich zu rutschen, stand plötzlich aufrecht da, die Arme nach oben gebogen, die Hände zum Scheitel. Wie die ägyptische Hieroglyphe, dieselbe Stellung – dieselbe Stellung!”

29 “Da ging eine Tür hinter mir, ich drehte mich um, und dort stand ein langer Mensch mit einem Reiherschnabel – ein ägyptischer Anubis. Mir wurde schwarz vor den Augen, und der Anubis machte eine Verbeugung vor dem Kommissär, ging zu ihm hin und flüsterte mir zu: 'Doktor Cinderella'”

30 “[...] und im Vorbeigehen streifte ich den Beamtenmantel an der Wand. Der fiel langsam herunter und blieb mit den Armen hängen. Sein Schatten an der kalkweißen Mauer hob die Arme nach oben über den Kopf, und ich sah, wie er unbeholfen die Stellung der ägyptischen Statuette nachahmen wollte”

imitating the statue's pose. Through the figure of the Anubis, Meyrink associates an ancient Egyptian god with anatomy, and the supernatural with science. Just as Freud traces back the etymology of the word “unheimlich” to the point when it comes also to mean its opposite “heimlich” to uncover its meaning, Meyrink is also tracing a similar historical course - following back science and the occult to where it merges and is based on a similar fallacy – the distinctiveness of the mind and body.

In each instance, the Anubis marks a gap, a blank spot, a moment of silence that reveals the flaws in the sciences' understanding of human consciousness or soul as well as the mistakes made by many occultists, who effectively act without thinking under the influence of blind belief. It is the unspeakable secret of the Chaldeans and the ancient Egyptians referred to by the narrator (75). It is his silences marked by hyphens: “-----What did I want to say?” (“-----Was wollte ich noch sagen?,” 74), the voiceless gaze of the plants, and the silenced dead man, dissected. All these point to fragments and pieces embodied by the plants and represented by Dr. Cinderella's, “two different sides of the face” (“zwei verschiedene Gesichtshälften,” 88), his lame left leg, his periods of absent-mindedness as well as his split identity as both an Egyptologist and a scientist. As with another famous mad scientist, Dr. Jekyll and Mr Hyde, the fragmented self is a consequence of dividing the conscious self from the body or simply not acknowledging that the spirit of a person exists and is symptomatic of practices such as the contemporary science that insists on viewing life as merely material.

In Meyrink's essay on yoga, his reoccurring criticism of materialism is linked to his belief that humans live in a state of fragmented consciousness, split between “metaphysical consciousness” and “day consciousness” (“Tages- und metaphysisches

Bewusstsein,” 24):

[T]he inner hidden, divided from us, stranger to us in day consciousness, primeval stranger, the silenced one, stands upright in us; he is the spinal cord – the Susumna – , that in truth is meant in yoga. The outer person is divided from him, because he stands askew – somehow in a sense 'askew' to him! (35)³¹

For Meyrink, materialism is the belief that the metaphysical consciousness does not exist and all that is perceived through the senses while conscious is all that exists. As he states further on in his essay, development of the mind comes from broadening the scope of consciousness rather than diminishing, interrupting or displacing it (43). The results of ignoring or misunderstanding the metaphysical consciousness are laid explicit in “Die Pflanzen des Doktor Cinderella” through the monstrous carnivorous plants. The plants are a consequence of viewing humans and animals as a function of the parts, in the process losing what gives them their humanity, their spirit.

Dr. Cinderella's grotesque plants are an answer to the question, what it means to be human, by imagining life without a soul – that which gives a person or animal their inner coherence. The story lays an immense importance on recognizing that a spiritual world exists beyond conscious perception, while maintaining a note of scepticism. The plants that Dr. Cinderella discovers are after all monsters, produced while Dr. Cinderella was in a deep trance-like state. Through the destructive consequences of Dr. Cinderella's imitation of the statue, Meyrink equates the dangers of misguided occult practices with the materialist perspective of anatomy, showing how both lead to the division of body and mind. His carnivorous plants also subvert a hierarchical social order that distinguishes humans and

31 “der innere verborgene, von uns abgetrennte, im Tagesbewusstsein uns fremde, urfremde (!) Mensch, der Vermummte, steht gewissermaßen senkrecht in uns; er ist das Rückenmark – die Susumna –, die in Wahrheit gemeint ist im Yoga. Der äußere Mensch ist von ihm getrennt, weil er schief steht – irgendwie in einem Sinne »schief« zu ihm!”

animals from plants. In plant-form, human and animal body parts become living fragments of a whole, incomplete and soulless – reduced to mere vegetative growth. Dr. Cinderella follows a similar path under the statue's influence, reduced to a moving, soulless being that echoes the blurring of categories of being. Through the relationship of Dr. Cinderella to his carnivorous plants, Meyrink's short story illustrates the fear that accompanies an encounter with the familiar and strange and subsequent existential uncertainty.

Chapter 4

The Plant Bites!: Deviant Plants in *Nosferatu* and *Alraune* as Metaphors for Social Instability in Weimar Culture

As is well known, the preoccupation with the occult in fantastic literature would find a continuation in the Weimar era in the realm of expressionist film. Beginning with Lotte Eisner's foundational study *The Haunted Screen* (first published in French as *L'Ecran Démonique* in 1952), scholars of Weimar cinema have frequently traced a genealogy of occult motifs leading from German romanticism through fin-de-siècle fantastic literature to the representations of occultist phenomena in film such as *The Cabinet of Dr. Caligari* (1919), *Waxworks* (1924) and *Metropolis* (1927). Given my own genealogy of "plant life" from German romanticism to the turn-of-the-century, it should come as no surprise if – alongside scientific representations of plant movement in films such as *Blumenwunder* – animated plants frequently show up as occultist motifs in the fiction films of the Weimar era. But if Weimar cinema inherited the concern for the occult from romanticism and fantastic literature, the prevalence of occult motifs in these films also registered a new experience of social anxiety. At least since Siegfried Kracauer's influential study *From Caligari to Hitler: A Psychological History of the German Film* (1947), scholars have sought to understand the predilection for uncanny phenomena in German film of the 1920s symptomatically, i.e. as the traces of social anxieties linked to the experience of profoundly unstable social and political order after WWI. While more recent scholars might not share Kracauer's teleological interpretation of these films as premonitions of Nazism, the bulk of Weimar scholarship has adopted a framework linking these films to the experience of

instability, while extending Kracauer's analysis to specific forms of social upheaval including the experience of the war and revolution,¹ economic instability and the transformations of class and gender relations.²

In the present chapter, I want to propose a similar reading of representations of plant life in Weimar cinema. Whereas an educational-scientific film like *Das Blumenwunder* could represent plant movement as a utopian discovery (in line with Balázs's vision of film as providing an alternative to rationalist thinking), other representations of plant life in Weimar film took on a much more demonic tone. Focusing my analysis on F.W. Murnau's *Nosferatu* (1921) and Henrik Galeen's *Alraune* (1928), I argue that such "demonic" and transgressive plants in Weimar film served as metaphors for the perception of social destabilization and the loss of traditional boundaries. Moreover, by comparing two films from the beginning and end of the decade, this chapter also argues that the relation to the experience of social instability changed: whereas *Nosferatu* uses demonic plants to "naturalize" social instability, essentially showing disorder to be an unavoidable state of things, *Alraune* represents the demonic plant as a transgression of a stable order that must be punished.

Plants appear briefly in *Nosferatu* and *Alraune*, playing small but crucial roles in films that reflect on the shifting gender and class relationship as well as the relationship of the scientist to nature. In *Nosferatu*, the protagonist Ellen empathizes with a bouquet of flowers, and the scientist, Professor Bulwer projects a clip of a Venus flytrap devouring a

1 With the intention to "reverse the perspective of Siegfried Kracauer's influential book" Anton Kaes argues convincingly that the lasting impact of WWI as a pervasive trauma can be read even in Weimar films that don't directly address WWI (4,5). Kaes has also included *Nosferatu* in this category of shell shock cinema as a narrative of separation, mass death and returning home.

2 Richard McCormick's *Gender and Sexuality in Weimar Modernity* reads the style of New Objectivity as symptomatic of a reaction against instability in gender roles.

fly. In *Alraune*, plants assume a more prominent place in the narrative through the title character, who is created from a Mandrake root, even if the Mandrake itself appears only a few times. But although plants may be on screen for only a brief time, they nonetheless serve as central metaphors for the profound social instability during the Weimar Republic, reflective of the immediate post WWI period for *Nosferatu* and the height of the stabilization period for *Alraune*, and they serve to dislocate the position and role of the monstrous.

The two films have received unequal attention by scholars with the lion's share going to *Nosferatu*.³ Many influential scholars have analysed and interpreted *Nosferatu* within the framework of Weimar Expressionist film aesthetics, resulting in a myriad of competing readings. But despite the variety of interpretations, most readings do fall within the frameworks of expressionist film research outlined above; whereas Tom Gunning positions *Nosferatu* within a long history of romantic and occultist phenomena,⁴ other scholars have followed Kracauer's lead,⁵ to link the film to contemporary socio-political instabilities including the trauma of WWI, anti-Semitic tendencies⁶ and transformations in gender roles.⁷ *Nosferatu* is well known to many film scholars in German Studies for its characteristic Expressionist aesthetic and as a German adaptation of Bram Stoker's vampire

3 *Alraune* has received little attention from scholars although it was immensely popular at the time (the original film with Brigitte Helm was followed by a remake in sound). A look at Valerie Weinstein's book chapter, one of the few interpretations of *Alraune*, will be included after the discussion of *Nosferatu*.

4 In his essay "To Scan a Ghost" Gunning reflects in particular on the relationship between the tradition of the uncanny and the proliferation of ghosts and phantoms in "new" visual and auditory media.

5 In *From Caligari to Hitler*, Kracauer saw in *Nosferatu* the looming threat of tyranny that could only be staved off through love (77-78).

6 John Sandford follows up on Kracauer's thesis, reading a deep anxiety about external chaos disrupting German society. Sandford draws parallels between the association of *Nosferatu* with rats and the anti-semitic film *Der ewige Jude* (1940) to demonstrate the roots of the NSDAP period in the Weimar Republic. Kaes also interprets *Nosferatu* from this angle in his contribution on Weimar film in *Geschichte des deutschen Films* (52).

7 Both Janet Bergstrom and Judith Mayne discuss *Nosferatu* and Weimar film from the perspective of gender. Bergstrom argues that class distinctions and typing was as important to Weimar film as gender distinctions (189), yet in Murnau's films and specifically *Nosferatu* the erotics of looking is displaced from solely the female body to include the male body and even landscape.

novel, *Dracula*. The film closely follows the plot of Stoker's novel with a few name changes: the film begins in Wisborg with a scene of apparent domestic tranquillity between Hutter (Jonathan) and Ellen (Mina), when Hutter gives Ellen a bouquet of cut flowers. Hutter is sent to Transylvania by his employer, Knock (Renfield), the real-estate agent and assistant to Nosferatu, the vampire, to close a sale. While there, Hutter discovers Nosferatu's true nature and fears the worst when Nosferatu leaves for Wisborg. During Nosferatu's journey, Professor Bulwer (Van Helsing) is shown teaching his students about “vampirism” in nature, a lesson accompanied by clips of a Venus fly trap devouring a fly and microscopic images of menacing polyps. Nosferatu proceeds to terrorize the town until Ellen, educated by vampire lore, offers herself as an ecstatic sacrifice in order to kill Nosferatu by luring him into the daylight.

Alraune has also been adapted from a book of the same name by Hanns Heinz Ewers, although with considerable changes. The film begins with a scene depicting the collection of the mandrake root from underneath a gallows at midnight, shifting dramatically to a scene between Professor Jakob ten Brinken and a group of scientists as he announces his plan to genetically engineer a human being based on the legend of the mandrake root and with the help of a criminal's semen and a prostitute. The result, Alraune, is raised by Brinken, educated by nuns and rebels by running off with a male friend, whom she convinces to take money from his father's workplace at a bank. On the train, they meet and join a travelling circus. The circus master becomes Alraune's next conquest, soon to be left behind as she discovers the lion tamer and subsequently shows him how to tame the wild cats. Alraune is rediscovered by her “father,” performing as a disappearing bird in a magician's act, and declared to be rescued by him from infamy. They proceed to travel from

town to town accumulating expenses until Alraune discovers the origins of her birth and begins to plan her escape. Brinken's final act of desperation, an attempt to kill Alraune, ultimately drives her into the arms of an aristocratic viscount.

During the seven-year gap separating *Nosferatu* (1921) and *Alraune* (1928), a shift occurred in Weimar film from an emphasis on Expressionist film to a more realist aesthetic, New Objectivity (Neue Sachlichkeit). This stylistic shift to New Objectivity, and the greater stability in the Weimar Republic after the introduction of the Dawes Plan, correlate to a change in the visibility of social instability.⁸ Richard McCormick in his authoritative book, *Gender and Sexuality in Weimar Modernity*, sees in New Objectivity “an obvious gesture of disavowal of the underlying anxieties about gender and modernity, an attempt to re-achieve 'masculine' mastery through objectivity, science, technology. [...] Mastery would be regained by documenting the anxieties of modernity 'objectively' and 'soberly' with the help of modern technology and/or 'scientific' methods” (51). There was also an overwhelming concern with “surface reality” and “a disavowal of 'inwardness'” (53). In comparison to *Nosferatu*, the subversive elements of plants in *Alraune* appear in the breaks of the New Objectivity aesthetic, reflecting the suppression of latent feelings of instability rather than overt instability. In contrast, the use of Expressionism in *Nosferatu* corresponds to the visibility of social instability and fluidity.

The relationship of plants to social instability in *Nosferatu* and *Alraune* is best understood when measured against one of the most persistent ways humans organize nature, the *scala naturae*. Also known as the great chain of being, the *scala naturae* organizes organic life and inorganic matter in a linear hierarchy from the inanimate

⁸ McCormick notes that the rise of New Objectivity is commonly associated with the greater stabilization period in the Weimar Republic from 1924 to as late as 1933.

material, rocks and crystals, to plants, animals, humans and finally the divine. The concept of organizing nature from lesser forms to higher forms in a linear hierarchy has existed in some form or extent since ancient Greece.⁹ Aristotle's division of the soul in three degrees from nutritive (plant), perceptive (animal), and rational (humans) is a formative example of a linear hierarchy. In a famous essay from the early 20th century, Emile Durkheim and Marcel Mauss suggest that the way people organize nature reflects to some extent the way they organize social relations.¹⁰ In literary studies and history, the chain of being has been often used as a model for interpreting hierarchical relationships.¹¹ Applying this model to *Nosferatu* and *Alraune* reveals the ways in which disruptions to the hierarchy that locates plants below animals and humans reflects the sense of social instability in the Weimar Republic.

The concept of the *scala naturae* was present in the Weimar Republic, albeit greatly impacted by Charles Darwin's theory of evolution and discoveries in the fossil record. With Darwin's theory of evolution, the understanding of life forms changed from a model of stable being to one of becoming (and going extinct), giving the great chain of being a sense of increased mobility and adding the idea of progression. The impact of evolution can be seen in Ernst Haeckel's famous "biogenetic law" (which stipulated that individual life

9 Arthur Lovejoy's *The Great Chain of Being* from 1936 was and still is one of the most influential histories of the idea.

10 Mauss' and Durkheim's essay, *Primitive Classification*, was originally published in French in 1903 and argued that nature was not based on an a priori logical hierarchy, but rather on the social hierarchy: "According to him [Frazer], men were divided into clans by a pre-existing classification of things; but, quite on the contrary, they classified things because they were divided into clans" (127).

11 Both Alice Kuzniar's article "A Higher Language: Novalis on Communion with Animals" and Christopher Clason's book chapter "Automatons and Animals: Romantically Manipulating the Chain of Being in E.T. A. Hoffmann's 'Der Sandmann' and *Kater Curr*" demonstrate how the chain of being is used as a model for interpreting literature.

The chain of being continues to shape the way we perceive nature. In an article for *Nature* magazine, Sean Nee analyzes recent texts by Richard Dawkins (2004), John Maynard Smith, and Eors Szathmáry (1995) among others, and finds that the concept of the chain of being is still present as a means of organizing nature.

forms pass through their evolutionary ancestry) at the turn of the century.¹² Representations of the chain of being were also common in Weimar educational films. The culture film, *Nature and Love* (*Natur und Liebe*) (1927), for example, traces life from its most primitive forms such as the polyp through progressively more complex beings until it reaches humans.¹³ Humans are further divided into the earliest cave dwelling ancestors through the Iron Age up until the final futuristic image, a projection of the ultimate progression through the visual metaphor of a ladder, leading into the light. The last image of people climbing the ladder into the light makes explicit the assumptions that evolution leads to progress and that humans are at the top of a linear hierarchy as the highest forms below the “light.” Films like *Nature and Love* expose a cultural narrative informing early 20th century representations of nature, which organizes the natural world according to an anthropocentric perspective that values progress and rationality (symbolized by the light) the most. *Nosferatu* and *Alraune* – and more centrally their plant representations – present the underside to the story of progress. Through representations of dangerous plants, the films thematize both the fear induced by changing social relations and the possibility of devolution or degeneracy.

As has been observed by many feminist theorists, the chain of being further divides humans into hierarchical subsections with men above women. In the opening sequence of *Nosferatu*, this gender hierarchy is set up only for ambiguity to be introduced at the end of

12 In his entry for the *Encyclopedia of Race and Racism*, Jonathan Marks summarizes Ernst Haeckel's variation of the chain of being as follows: “Darwin's German apostle, Ernst Haeckel, would go further, constructing a theory of evolution that stretched from the amoeba to the German nation, driven by his “biogenetic law” (that ontogeny recapitulates phylogeny, or that individuals personally pass through developmental stages representing their ancestry). In such a grand view, not only would other races be primitive and inferior, but so would other social institutions and political systems” (72).

13 The film also has four possible subtitles which reveal a great deal about the film's content and narrative arc: *Ein Film von Liebe und lebendigem Werden* (*A Film about Love and Living Becoming*), *Schöpferin Natur* (*Creator Nature*), *Vom Urtier zum Menschen* (*From Primeval Animal to Human*), and, *Von der Urzelle zum Menschen* (*From Primeval Cell to Human*)



Fig. 23. Tower in Wisborg from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.



Fig. 24. Hutter Grooming from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.

the scene. The establishing shot of the film, the tower in Wisborg [Figure 23], is immediately followed by a shot of the film's main protagonist, Hutter, grooming himself before a mirror [Figure 24]. Through this associative montage, the film connects the two images thematically and graphically. The tower is significant for its cultural connotations as a symbol for the achievement of human civilization and progress but also for language and power. Matched by the subsequent shot of Hutter, the tower's connotations become associated with Hutter and consequently masculinity.

In contrast with Hutter's proximity to the tower, the subsequent sequence associates Ellen more closely with nature than the city and positions her as the object of Hutter's gaze. After Hutter is finished grooming, he goes to look out of the window. The following eye-line matching shot of Ellen looking out the window surprises the viewer, who expects to see a shot of the street or of the city. Instead, they are faced with a shot that directs outward, but is actually looking inward. Looking into Ellen's space we see an image of domesticated nature, flowers as decorations in window boxes and a cat whose purpose, it seems, is to be Ellen's plaything [Figure 25]. The prominence of plants frame Ellen and



Fig. 25. Ellen at the Window from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.

mask the window frame, creating, for a brief moment, ambivalence as to whether she is outside - in the countryside or inside a building in town. In contrast, Hutter's bare walls and simple window dressings unequivocally place him inside a building and within a town. The ambivalence of Ellen's location in addition to the prominence of plants in this first image of Ellen places her closer to nature than Hutter. In the subsequent shot, the floral print on the wallpaper and the framed picture of plants visible in the background further reinforces Ellen's closer connection to nature. This brief sequence and spatial framework embedded in these opening images suggests a hierarchical division between men and women that conveys traditional, conservative values

The stability of social relations at the beginning of the film is reflected in the typical depiction of the chain of being as seen in the behaviour of the cat and the plants surrounding Ellen as well as the composition in the frame. Central within the frame, Ellen is higher up on the ladder than the cats and plants. From her interaction with the cat, it is clear that she is in control, manipulating the cat's movements with the use of a pendulum. Like the cat, the plants are defined in terms of their relationship to her. They serve as a visual frame and as decoration. The plants are static, mere ornamentation, resembling more inanimate objects than living beings. Passive and with no sign of self-initiated movement, the plants in the window box differ in no great way from the plants visible on the wallpaper and in the framed picture behind Ellen. The plants here are enframed, contained, unlike the plants later in the film. The perception of plants as discrete, stable objects that have been instrumentalized is set up in this scene only to be later destabilized by an alternative perception of nature as fluid and possessing menacing agency. In addition to the decorative use of plants, the use of plants as a form of symbolic currency becomes apparent in the next sequence when Hutter goes outside to cut some flowers for Ellen. He is shown cutting flowers, surrounded by bushes that appear wild, inviting a contrast between his civilizing influence and nature and foreshadowing the conflict of interests between the social use of plants and the perception of plants as living beings. Hutter's attempt to express his love for Ellen is not unusual behaviour, but represents a widespread instrumentalization of flowers. Presenting cut flowers to a loved one gained in popularity during the 19th century in Europe and North America. A short film from the 1920s, *Laßt Blumen Sprechen* (*Let Flowers Speak*),¹⁴ playfully taps into the popularity of giving flowers and refers to the

14 The film was released in Germany in 1929 according to the censorship cards, but appeared in France some time earlier under the title: *Quand Fleurs Parlent*

plethora of books published during the 19th century discussing the language of flowers.¹⁵ The short film shows two men competing for a woman's affections by giving her increasingly larger bouquets of flowers. In *Nosferatu*, the joy apparent on Hutter's face while cutting the flowers reveals his expectation that Ellen will participate willingly in this exchange of symbolic currency and reinforce his perspective that flowers exist for the purpose of human use [Figure 26].

Instead, Ellen's reaction to Hutter's flower bouquet subverts this instrumental use of flowers and introduces one of the central themes of the film: her reaction questions the traditional gender hierarchy through introducing instability into the hierarchy of being. Ellen responds to Hutter's gift of the flower bouquet as if the flowers were human instead of reading his gift as a sign of affection. She turns away from Hutter, placing herself between him, the perpetrator, and the flowers, the victims. Then she cradles the flowers, caressing them as if they were a baby [Figure 27]. Her empathy with the cut-down flowers is made explicit in the following intertitle, when she asks Hutter, "Why did you kill them,



Fig. 26. Hutter Gives Ellen Flowers from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.



Fig. 27. Ellen Cradling the Flowers from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.

15 The Walter Ruttmann animation, *Das wiedergefundene Paradies (Paradise Regained)*, from 1925 is another example of a flower language used as an advertisement.

the lovely flowers?” By elevating the flowers to the status of a living being that can be killed, Ellen reveals the horror in the common use of plants as tokens of affection and thereby suggests that the *scala naturae* is itself founded upon violence. She also distinguishes her view of nature as fundamentally different from Hutter’s, whose naivete contrasts with her greater awareness.¹⁶ As we saw in chapter two, Ellen’s reaction to the flowers is repeated in the later film, *Das Blumenwunder* (*The Miracle of Flowers*), when Flora, the fairy, stops the children from destroying a flower bed and equates the life of flowers with that of humans: “The flowers have life like yours” (“Die Blumen haben Leben gleich Euch”). As with Flora’s reaction, Ellen’s also reverses the perspective that views plants as inanimate objects, thus questioning the objectification of the plants and ultimately the objectification of herself by Hutter. As the film progresses, the distinctions between plant, animal and human will become increasingly blurred, challenging the hierarchy of man over woman and humans over nature.

The use of plants as a metaphor for instability in gender roles conforms to a broader subversion of the standard relations between active men and passive women in the film that has been identified by scholars such as Janet Bergstrom. Instead of Ellen as the sole, passive object of desire, the film introduces fluidity into the relationship between desiring and being desired, what Bergstrom has termed an “erotics of looking.” She reads the reclining pose of Hutter, after his first night in the castle as an example of the male body as passive, feminine, and momentarily powerless without undermining his heterosexuality (197). She connects this scene to a diffusion of visual pleasure in *Nosferatu* that includes women, men and even landscapes. By focusing on this diffusion of visual pleasure,

¹⁶ I am referring to the scene when she sits up suddenly in bed, reaches her arm and calls for Hutter, suggesting that she is aware of what is occurring a great distance away.

Bergstrom's concept of the “erotics of looking” reveals the fluidity and ambiguity present in the relationship between Ellen, Hutter, Nosferatu and the spectator and in their shifting roles.

A further layer of complexity is added to the shifting and ambiguous social hierarchy in a famous montage sequence in which Professor Bulwer gives a scientific lecture on vampire-like phenomena in nature. Through the three hybrid figures – the Venus flytrap, Knock (the real estate agent) and a polyp – the film codes fluidity of social status and, consequently, deviance and degeneracy as natural. The montage sequence is set up as an example of the laws of nature. In an introduction to Professor Bulwer, the purpose of his investigations into nature is identified – in a phrase with Haeckelian overtones – as finding the “unifying principle of nature.” The coding of the images as natural is continued in the introduction to the Venus flytrap. We learn from the narrator in an intertitle that Professor Bulwer is teaching his students about the “cruel habits of carnivorous plants.” The intertitle continues: “In horror, the students observe Nature's mysterious ways.” Bulwer's lesson occurs as Nosferatu and his soil-filled coffins are being transported to Wisborg on the ship named Empusa.¹⁷ At the same time, the shots are also intercut with images of Knock who begins to imitate the spiders he sees in his cell by eating insects and crying out “blood is life!” The paralleling action positions the Venus flytrap as a metaphor for Nosferatu and suggests that his “cruel habits” and “mysterious ways” are as much a part of nature – as representative of nature’s “unifying principle” – as are carnivorous plants and beastly humans such as Knock.

17 The ship's name, Empusa, is the first subtle detail that connects this sequence to hybridity. Empusa was a goddess in Ancient Greek mythology, who was known for her ability to assume many different shapes and to suck the blood of travellers passing by. This version of the myth comes from chapter four of *Life of Apollonius of Tyana* by Philostratus.



Fig. 28. Venus flytrap from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.

The following shot of the Venus flytrap [Figure 28] closing in on a fly stands out for its realistic aesthetic – the footage may have been taken from a contemporary nature film (or modelled on one) – in an expressionist film with a prominent use of chiaroscuro. As with many other plant films from the 1920s, the image reflects the unemotional gaze of the scientist, whose distance to the object of study contrasts with the emotional expressivity and interiority seen throughout the film. As Tom Gunning argues, the image of the Venus flytrap is “the visualization of scientific mastery” (Gunning, “To Scan a Ghost,” 98). The unmodified shot of the Venus flytrap appears to conflate science and film, suggesting that both the scientist and the filmmaker have an unquestioning grasp of what constitutes reality. Yet Bulwer is also powerless to stop nature's cruel habits. As Judith Mayne observes, the figure of Bulwer “suggests that the forces of science, reason, and civilization can no longer successfully wage battles against the Draculas of the world, but exist only to

give illustrated lectures” (30). The realistic aesthetic of the Venus flytrap exhibits the strengths of science, the ability to shift and change the way we perceive nature through documenting the ways in which the natural world thwarts expectations such as the existence of a plant that eats flies instead of being eaten. Yet the much diminished role of Bulwer compared to Bram Stoker's scientist Van Helsing also illustrates the limits of science, failing to address the affective response to shifting societal norms. In response to the “unplant-like” behaviour of the Venus flytrap, the students observe “in horror”.

The students' horrified response to the Venus flytrap is part of larger cultural narrative surrounding carnivorous plants that labels their behaviour as deviant and degenerate. The surprising and sensationalist behaviour of carnivorous plants inspired many short nature films alongside other oddities from the plant world.¹⁸ A short film also from 1921, *Die Seele der Pflanzen* (*The Soul of Plants*), compares the Venus flytrap to a vampire: “In warm, humid days, the plant becomes a vampire” (“In feuchtwarmen Tagen aber wird die Pflanze zum Vampyr”). The film continues on to elicit sympathy for the insect caught in its grasp: “Pity the victim that isn't strong enough to escape the closing bars” (“Wehe dem Opfer, das nicht stark genug ist, den schließenden Gittern zu entrinnen”). Often, neutral language is mixed with animal metaphors and comparisons to criminality. In a short film from 1925, *Wunder der Pflanzenwelt* (*Wonders of the Plant*

18 The film, *Wonders of the Plant World*, exemplifies the choice of unusual plants. The film features the *Mimosa pudica*, a plant that moves upon contact; carnivorous plants; the *Victoria regia*, a lily pad with unusual strength and quick growth; the Lotus flower, which only flowers for a day; the giant Redwood tree with its quick growth and extreme heights; among others.

For most of the carnivorous plant films, only the censorship cards were available for viewing. The films are as follows: *Fleischfressende Pflanzen* (1922) (*Flesh-eating Plants*), *Wunder der Pflanzenwelt* (1925) (*Wonders of the Plant World*), and *Insektenfressende Pflanzen* (1929) (*Insect-Eating Plants*), *Räuber in der Natur* (*Fleischfressende Pflanzen*) (1930) (*Robbers in Nature* (*Flesh-Eating Plants*), and *Fleischfressende Pflanzen* (1943) (*Flesh-Eating plants*). The film from 1943 was the only one available for viewing in the state archive in Berlin. Despite its use of colour film and sound, the shot of the Venus flytrap was very much similar to the one in *Nosferatu*. It can be assumed that the aesthetics of the short nature films had not changed a great deal between 1921 and 1943.

World), a fly caught in a Venus flytrap is referred to as “prey” (“Beute”), which can also be translated as booty or loot. The connection to criminality is more explicit from the title of a film from 1930, called *Räuber in der Natur: (Fleischfressende Pflanzen)* (*Robbers in Nature (Flesh-Eating Plants)*). In the same film, the trapping motion of Venus flytrap is described through an animal metaphor: “A fat bite” (“Ein fetter Bissen”), recalling Professor Bulwer's comparison to vampires after the shot of the Venus flytrap in *Nosferatu*. The way carnivorous plants are contextualized in the short plant films and *Nosferatu* reveal a perception of these plants as socially deviant, and as “criminals” because they behave like animals. Their perceived upward mobility on the chain of being is being characterized as antisocial. A similar condemnation is applied to Knock's animal-like behaviour as an example of degeneracy, first, when he is interned in an asylum and, later, when he is killed by a town mob.

Bulwer's second projection, the polyp [Figure 29], presents a second example of species ambiguity. As primitive organisms possessing a simple digestion system and branchlike tentacles, polyps were often perceived as closer to plants than other more complex animals. Gustav Fechner in his discussion of the plant soul from the mid 19th century refers to polyps as “half plant-type Nature” (“halb pflanzenartiger Natur”) and plants as “only wooden polyps” (“nur verholzte Polypen,” 244). Polyps were also compared to plants in a short nature film from 1921, *Natur im Film: Die Hydra des Süßwassers* (*Nature in Film: The Hydra of the Fresh Water*): “The hydra almost appears like a little plant” (“Die Hydra sieht fast wie ein Pflänzchen aus”).¹⁹ As in the short films

¹⁹ The hydra is the genus of a polyp. The microscopic shots of the polyp in the short film *Hydra des Süßwassers* are very similar to the one in *Nosferatu*.

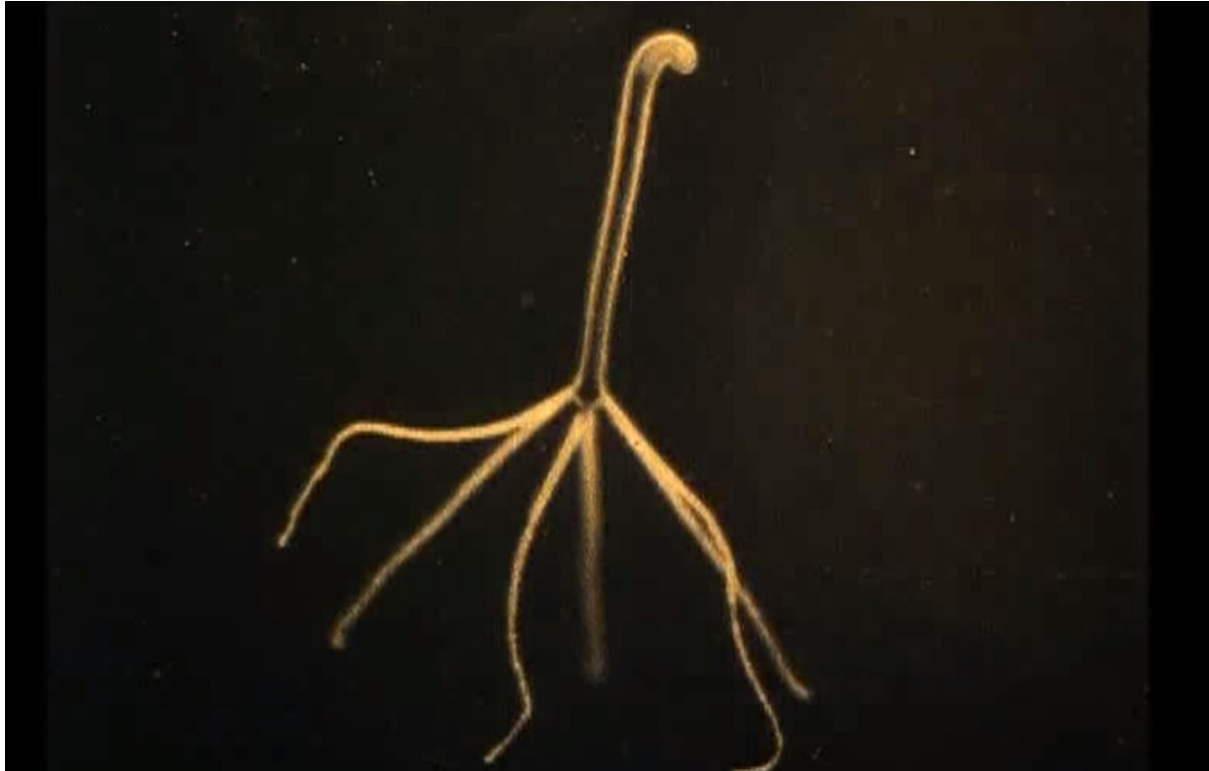


Fig. 29. Polyp from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.

on carnivorous plants, the polyps in *Nosferatu* are referred to as “Robbers” (“Räuber”), personified as belonging the criminal class and therefore deviant. Although the polyp, the Venus flytrap and Knock are considered deviant, the film resists labelling them unnatural. Instead, deviance and destructive influences have a place within the natural system as a catalyst for social change. Viewed in this light, the final image of the film, a shot of vegetation slowly eating a stone tower, is telling for its powerful statement on the impermanence of social relations and structure.

The metaphors of the Venus flytrap and the polyp point to Count Orlok as a metaphor for social instability. His animal and plant-like characteristics point to a fluidity between human, animal and plant that represent a threat to social stability and to Ellen and Hutter's relationship. The rat-like countenance of Count Orlok and his proximity to rats has been discussed by John Sandford. Building on Kracauer's thesis that the aesthetics of

Weimar cinema register deep-seated anxieties about social order, Sandford argues, it is possible to detect the “germ of a more specifically racial insecurity” (i.e. anti-Semitic fears) in certain images from *Nosferatu* and other films produced during the Weimar Republic (322). Nosferatu’s appearance and his origins in the east have been often cited as a reference to the Jew as a foreigner and the fear of him as a reference to the fear of a foreigner among us.²⁰ Kenneth Calhoon's proposes a broader reading, placing Nosferatu as the conduit between the animate and inanimate world, a place typically occupied by plants on the chain of being:

Behind the experience of the Uncanny is a magic that undoes the border between self and world and recalls the dead to life. An insect’s assimilation to a leaf or twig is evidence of a “magical tendency” in the biological world. The sickly-pale Nosferatu, who sleeps by day and eats nothing, leads the “reduced existence” of the organism that adapts itself to the inanimate. (647)

The aspect that Calhoon identifies as magical, the undoing of the border between self and world, is a metaphor for social change. The causes of social instability in the Weimar Republic were numerous, but most were linked to World War I and its aftermath. Anton Kaes has identified the film *Nosferatu* as a possible example of shell shock cinema, in which the cause for the social upheaval is the war. Common to most readings of the figure *Nosferatu* is the threat he poses to the social stability as a catalyst for chaos, whether that is from World War I trauma, racial anxieties, or a diffusion of desire. Perhaps the most radical aspect of *Nosferatu* is the framing of social upheaval and the resulting shifts in social structure as natural, causing the vampire to be seen not as the other but embedded within the social norms.

While the transgressive Venus flytrap in *Nosferatu* frames social instability and

20 See Paul Monaco. *Cinema and Society in France and Germany, 1919-1929*. (New York: Elsevier, 1976).

change as natural processes, in *Alraune*, the title character's rise from the lower classes is framed as unnatural revealing a latent resistance to social change. Professor Jakob ten Brinken's experiments with artificially breeding a woman, Alraune, are explicitly vilified in the film as going against nature. Before Brinken begins his experiments, his nephew accuses him of “violating nature” and warns that “nature will have her revenge.”²¹ At the conclusion of the film, the narrator repeats the judgement that he had “violated nature” and names his sentence, suffering “the hell of loneliness and insanity.” The reframing of instability in *Alraune* as unnatural reveals a fundamental shift in how social change is viewed. In *Nosferatu*, the naturalization of the Venus flytrap includes their deviance from plant norms within a larger framework of unavoidable systematic change. In contrast, Brinken's experiments with artificial insemination is in fact an experiment with social class that reflects a belief that upward social mobility, changing gender roles or even flux within the social hierarchy is unnatural. His punishment, diminished social status and isolation, is in accordance with his perceived crime against societal norms.

The film follows the experiments of geneticist, Professor Jakob ten Brinken with artificial insemination and parenting. He creates Alraune with help of a Mandrake root, a prostitute and the semen from a hanged man. As he states, he raises his creation without the interfering emotions from biological parentage and takes meticulous notes on her progress, kept in a journal. Alraune seems at times to exhibit some of the traits of her dubious parentage: promiscuity from her prostitute mother and devious behaviour from her criminal father. Still, as one reviewer remarks, Henrik Galeen, the writer and director, has sanitized the character Alraune in his adaptation of Hanns Heinz Ewers' novel of the same name

21 All subtitles are taken from the English version of *Alraune*.

(*Alraune*).²² Her overt vampire tendencies have all but disappeared and in the end, she seems to find respectability in marriage. Professor ten Brinken, on the other hand, has fallen from a position of respectability and authority to one of financial ruin, isolation and insanity.

Very little has been written specifically on *Alraune*, especially considering the star power of Brigitte Helm, who plays the title role. Valerie Weinstein in her comprehensive reading of *Alraune* argues that the film “preys on fears of racial pollution and anxieties about the New Woman and debunks science as an effective source of knowledge” (198). In addition, she sees the stylistic and thematic blending of horror and science in the film as corresponding to the blending of Expressionism and New Objectivity (199). Finally, *Alraune* is not just a product of artificial insemination but an example of “fantastic biology” that blends “biological, technological, and fantastical parentage” (204). One of the central questions of the film, according to Weinstein, is whether an experiment and observation can determine if “the parents’ genetic make-up has a purely random effect on the offspring.” Weinstein concludes that “the film suggests that Brinken's question cannot be answered definitively through observation” (208). Expanding on her reading, I argue that the narrative of a plant becoming human functions as a metaphor for social mobility and gender instability, which depicts both forms of social change as artificial while conversely naturalizing a rigid social hierarchy as a natural order.

22 While there is no room here for a comparison to the novel, the reviewer's remarks can be easily justified. In Ewers' novel, *Alraune* is overtly vampiric, drawing blood during sex through biting and scratching, and the men around her experience not just financial ruin but often death after a relationship with her.

From the outset of the film, a social hierarchy that subdivides people into uncivilized and civilized is readily apparent through visual clues that reveal a “naturalized” right of members of certain social class to instrumentalize others. The visualization of the Mandrake myth behind Brinken's experiment associates lower classes with nature through dark Expressionist images of a man hanging on a gallows above a rocky, wild landscape [Figure 30]. According to the myth, the dead criminal's semen should be collected from the ground at midnight to create the mandrake root. It is a given that the criminal's semen could be taken disregarding any claim a criminal and a dead man might have to the use of his body. Similarly, the title that the film gives to the myth: “The Story of A Mandrake Root Which Turned Into a Human Being” suggests that *Alraune* should be read as progressing from subhuman to human. By the end of the film, she has attained a higher degree of culture. Other appearances of people from the lower classes reiterate the early association between lower (or subhuman) social status and instrumental use. The luring of



Fig. 30. Man Hanging Over Expressionist Landscape from *Alraune*. scene still. Dir. Henrik Galeen. A ma-Film, 1928.

the prostitute from the street and her use as a surrogate mother illustrates a perception of women's bodies as both open for instrumental use by anyone and her subsequent invisibility (she disappears into Brinken's unseen laboratory to not be seen again) reflects the invisibility of these classes.

The question of class and status also informs the film's aesthetics. The contrast between the opening expressionistic shots and the subsequent introduction to Professor ten Brinken is striking for its abrupt shift to a realist aesthetic, New Objectivity, and for the division it suggests between the lower classes and the respectability of Professor ten Brinken. Realism helps to code him as well-respected member of society. He is introduced through the narrator as a “world-famous authority on genetic cross-breeding” and “his Excellency the Privy Councillor.” A group of white men in suits are shown standing around him and paying deference to his explanation of his experiment with the Mandrake root. The value that Brinken ascribes to reason and science over the irrational and myth is clear from statement of intent “Mandrake. daughter of the hanged man from the dark days of superstition ... I shall lead you into the clear light of science.” His intent is undermined by the affinity he has for the lower classes as evidenced by his caresses of the woman-shaped root and the social taboo of his incestuous feelings for Alraune. The importance of reputation and the social status to Brinken is repeated after the circus scandal: “You Have Misused My Name. We Shall Travel Far. Far Away. Until Your Past Is Buried.”²³ Science, respectable society and the realist aesthetic are further bound together when Brinken records in his journal that he then “Introduced Her Into The 'Right Circles'” after they leave from the circus. The opening scene alongside subsequent reminders plays a crucial role in

23 An article from 1931 in *Das Kriminal-Magazin* asserts that it is a common belief that criminality is common in the circus: “Durch diese ausgiebige Berichterstattungen steht man allgemein die Ansicht, daß kriminelle Delikte im Zirkus häufig sind” (1667).

the film by setting the societal norm against which Alraune's and Brinken's subsequent behaviours can be judged.

For Alraune, the question remains throughout the film whether she has been properly socialized to become a lawful member of society and if her fathers' crimes, the criminal's and Brinken's, leave a mark on her. On the surface, she appears to have been fully assimilated: she's an attractive, athletic woman with blond hair and blue eyes, but the film frequently undermines this outward appearance via other visual clues, giving cause to read her, as does Weinstein, as the embodiment of the mandrake root" (203). Weinstein mentions the two most overt connections: Brinken fondles the human-like mandrake root near the start of the film, and at the point of his downfall, he visualizes the root rotating as it dissolves into a woman's body [Figure 31 & 32]. This dissolve, as Weinstein reads it, "blurs the boundaries between magic object and the vamp." She continues: "The film explicitly codes the mixings that created Alraune as impure" (203). The dissolve also illustrates Alraune's social mobility as a fluid transformation not necessarily controlled by Brinken but witnessed by him. A poster advertising *Alraune* also visualizes her impurity as a contrast between a human ascending to the light and the roots of a plant reaching down into the darkness [Figure 33]. The root tendrils wrapped around the decapitated heads of her "victims" recalls the grasping of the Venus flytrap and polyp in *Nosferatu* as deviant behaviour but also the fluidity of their state of being as between animal and plant. The image also gives Alraune an oddly animalistic character as her roots resemble an octopus grasping its prey, a precursor to the repeated associations between Alraune and animals throughout the film. A scene that was not included in the final version also suggests racial impurity. A black man is shown climbing out from the brothel of Alraune's mother,

suggesting a further interpretation of Alraune's appearance. Both the film poster and the dissolve call into question the surface appearance of Alraune as a woman, suggesting an underlying instability to her state of being and social position.



Fig. 31. Mandrake Root from *Alraune*. scene still. Dir. Henrik Galeen. A ma-Film, 1928.



Fig. 32. *Alraune from from Alraune*. scene still. Dir. Henrik Galeen. A ma-Film, 1928.



Fig. 33. Alraune Film Poster from
pappersdrake.wordpress.com. Web. 11 March 2011.

Numerous other visual clues hint that Alraune's inner nature is in contrast with the respectability and status her appearance affords her.²⁴ She channels a child-like, primitive sexuality seen in her fearlessness around vermin. The first image we see of Alraune is reminiscent of the first shot of Ellen in *Nosferatu*. As with Ellen, Alraune is shown at a window and against a background of plants. Instead of Ellen's innocent play with a cat, however, Alraune is shown playing with an ant, repeatedly pushing it back into a dish filled with water. It is a small cruelty on her part, but does not necessarily reveal her to be monstrous. The same applies to her trick on the nun, when she places a large, hairy spider

²⁴ I am referring here to Weinstein's argument that the film suggests that Alraune is also racially impure. She cites a scene cut from the final edit that depicted a black man climbing out of the brothel where Alraune's mother was found (Weinstein, 209, note 9).

on the woman's habit. The sexual undertones to these animal associations become apparent when Alraune meets the circus manager in the train. She reacts with delight to a mouse running up her skirt, to the surprise of the circus manager, who expected fear or horror. Her association with animals retains an innocent quality through her child-like playfulness that resists reading these scenes as evidence of her monstrous character. Her association with these less desirable animals differs greatly from Nosferatu's association with rats and the hyena, which explicitly code him as monstrous. Nor does she humanize the animals as does Ellen the flowers. Rather, her association with vermin expresses her ambivalent relationship to the implications of her deviant origins on her performance of gender and her social class.

The association between Alraune and animals reaches a new level of complexity in the episode with the circus that visually codes Alraune's place in society as ambivalent and, therefore, problematic. In addition to her association with a caged bird, Alraune is also graphically and thematically compared to a roaring lion. While flirting with the lion tamer, she leans over to the side of the cage, and blows smoke in a lion's face, eliciting in response a growl from the lion [Figures 33 & 34]. The graphic match functions on two levels: figuratively, the stereotype of a passive plant has been contradicted and the problematic aspect of the mandrake root is revealed: it is an aggressive plant that behaves like an animal. Second, this short visual match extends the threat of Alraune's caged aggression to an entire class. The contained wild animals seen performing beside the circus performers suggests a reading of social outcasts and criminals as a suppressed threat. The graphic match in *Alraune* recalls a similar graphic match in the magazine *Der Querschnitt* from 1926. On opposing pages, a yawning tiger faces a close-up of the inside of an orchid

[Figures 35 & 36]. In bringing the two images together on opposing pages, familiar objects become strange, allowing the orchid to be read as a gaping mouth and the tiger as an open invitation. Similarly, the juxtaposition between Alraune and the lion defamiliarizes



Fig. 33. Lion Roaring from from *Alraune*. scene still. Dir. Henrik Galeen. Ama-Film, 1928.



Fig. 34. Alraune Grimacing from *Alraune*. scene still. Dir. Henrik Galeen. Ama-Film, 1928.



Fig. 35. Sam, der Königstiger im Londoner Zoo from *Der Querschnitt*. 6 March 1926: 40. *Illustrierte Magazine*. Web. 12 Aug 2013



Fig. 36. Inneres einer Orchideenblüte from Albert Renger-Patzsch. from *Der Querschnitt*. 6 March 1926: 41. *Illustrierte Magazine*. Web. 12 Aug 2013

Alraune, suggesting that she might be more like the caged lion – contained by the limits of her origins – enforced by her “father” Brinken.

The cages are significant in this scene and throughout the episode with the circus for

their representation of ownership and containment as a relationship between classes. At the beginning of the film, the myth warns against attempting to own the mandrake root: "But it could also bring suffering and torment to anyone who tried to own it." A few typical circus acts are followed by Alraune appearing and disappearing from a birdcage. The scene links Alraune's place in the cage to her relationship to Brinken, who watches her from the audience, believing he has caught his wayward bird. On the surface, it appears that Brinken is asserting his control over Alraune. It is a classic example of Laura Mulvey's theory of the male gaze and the objectification of the female body on film. However, after Brinken leaves his seat, Alraune's first appearance in a cage is qualified by a second. Entering the lions' cage, she is neither afraid nor tame, but hypnotizes the lions, stopping them in their tracks. People swirl chaotically around the outside of the cage, assuming that she needs rescuing until the lion tamer pushes her out of the cage. He resumes the role that Alraune had overtaken. Here, Alraune plays both the sexual object and the predator, foreshadowing the development of her relationship with Brinken.

The sequence with the circus also reflects thematically on film aesthetics regarding visibility and invisibility, surface appearance and hidden content. The circus performances appear seamless from the perspective of the audience, since the secrets behind the tricks are hidden from their view. The performances recall the early cinema of attractions. As in the films of Georges Méliès, the tricks consist of making objects appear and disappear: a man conjures flowers from an empty vase, and Alraune appears in a cage. But for each performance, the illusion is broken for the film's audience by a shot from behind the stage that reveals the magician's secrets. An equivalent to this balance between illusion and revelation occurs in many of the short plant documentary films. They often mention the

rate at which the film had been speeded-up or the actual rate of plant growth.²⁵ The irony here throws doubt on Brinken's ability to read Alraune, as well as the ability of realist aesthetics to reveal her true nature and place in society.

The moments when the realist aesthetic is interrupted are important for determining when the power Brinken has over Alraune is disrupted and when their social positions shift relative to one another. One key scene follows her reaction to the truth of her birth using expressionistic stylings to visualize her existential dilemma. In contrast to the bright, low-contrast images from the rest of the film, Alraune's emotional turmoil is depicted using high-contrast lighting and she is wearing a black dress with extended white lapels, long pointed sleeves and hem in the front. After she reads Brinken's journal, a record of his experiment with her, she collapses on the adjacent couch overwrought with emotion and then proceeds to where Brinken is sleeping. The scene repeats the final scene in *Nosferatu*, when he goes to drink Ellen's blood, complete with the looming, oversized shadows [Figures 37 & 38], and the iconic image of the shadow of his hands reaching out over the intended victim [Figures 39 & 40]. There is just one exception. Instead of carrying through with her murderous intentions, Alraune restrains herself drawing back instead of acting on her dark urges. With her vampiric emotions successfully restrained, the film resumes a realist aesthetic. Through this episode and the circus, the film undermines the truth-value of New Objectivity by revealing an alternative and unstable reality potentially better suited to discovering Alraune's inner self.

25 *Geheimnisse der Pflanzenleben (Secrets of Plant Life)* mentions the length of the shot in relation to screen time: "What here in the course of thirty seconds is seen, is in reality a struggle that lasts a full week ("Was hier im Ablauf von dreißig Sekunden sehen, ist in Wirklichkeit ein Kampf, der eine volle Woche dauert").



Fig. 37. Nosferatu Motif in *Alraune* from *Alraune*.scene still. Dir. Henrik Galeen. Ama-Film, 1928.



Fig. 38. Nosferatu's Shadow from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.



Fig. 39. The Shadow of Alraune's Hands on Brinken from *Alraune*. scene still. Dir. Henrik Galeen. Ama-Film, 1928.



Fig. 40. The Shadow of Nosferatu's Hands on Ellen from *Nosferatu*. scene still. Dir. F. W. Murnau. Minneapolis, Minn.: Mill Creek Entertainment, LLC, 2006.

Apart from the visual clues, there are at least two direct references to Alraune's inner state that qualify her humanity and indirectly criticize Brinken's. The first comes in the form of a warning from Brinken's nephew that echoes the common association of warmth with life and emotions: "One who lacks the warmth of life. And bears the chill of death within her." His chilling description identifies her subjective experience as plant-like and therefore inhuman through her coolness and proximity to death. His interpretation is the inversion of Dr. Cinderella's in Meyrink's "Die Pflanzen des Doktor Cinderella," who interprets the warmth of his carnivorous plants to mean that they are animal-like. This description of Alraune could also refer to Brinken at the start of the film, whose character is described in a review from the magazine, *Lichtbild-Bühne*: "One believes of him the scientific cool and the ambivalence towards humans" ("Man glaubt ihm die wissenschaftliche Kälte und die menschliche Gleichgültigkeit"). The inhuman soul within a Mandrake root reflects the monstrous aspect of her creator and of science. It denies her the human love that binds her socially and defines the loveless relationship between her and her father. Her mandrake roots place her outside of society, from the "Scum of the Earth," as Brinken requests. His willingness to manipulate humans for the purpose of science reflects his own detachment from the society that appears to support him. When he attempts to murder Alraune at the end of the film, his murderous intentions causes him to resemble more the "scum" of society than the representative of society he once was. Alraune on the other hand strives to be removed from her past by the end of the film. She asks the viscount: "Take me away from here. Give me another soul, and a heart so that I might become a human being, and love like one." Her statement qualifies being human as attaining an inner emotional and spiritual state that builds social relations rather than

destroys and is unrelated to the name and social position. Her marriage contradicts to some extent her definition of human as subjective by being socially advantageous. Although the film does not definitively show that Alraune will remain with the viscount, it does represent her social climb from an outcast to a titled social member, and the corresponding decline of Brinken from a respected member of society to “Swindler” and finally attempted murderer.

Alraune's reference to the heart brings to mind, *Metropolis* (1927), a film concerned with social instability and class structure. The motto of the film, “in between head and hand is the heart” (“Mittler zwischen Hirn und Hand muß das Herz sein!”), presents brotherly love as a great equalizer that does away with the boundaries that divide class. As in *Metropolis*, a woman, Maria and her robot double, also played by Brigitte Helm, are at the centre of social upheaval that ride on questions of humanness. In *Alraune*, the famous robot from *Metropolis* has been replaced by a plant and artificial breeding, just as the critical look at technology has been replaced by one directed toward science. Gender in these two films and others plays a large role in anxieties about social instability,²⁶ unsurprising considering the changing roles of women during the Weimar republic and their new visibility.

In addition to changing gender roles, the increasing mobility of the population also fuels social instability in *Alraune*. The ability to leave everything behind, including the institutions that once determined your social status, opens the way for a fresh start. Each time Alraune moves to a new place her identity changes. She goes from a schoolgirl at the convent, to an attraction in the circus, to an attractive young woman, to a vamp, and finally to a woman whose choice suggests she has entered into a respectable social position. The

26 The examples are numerous and include: *Die Büchse der Pandora*

first transition is perhaps the most meaningful for *Alraune* and for the film. Taking place on train, the transition becomes a metaphor for the circulation of people, from all different classes and freely mixing with one another. In the train, *Alraune* not only has a sexual awakening symbolized by a shot of the train sliding in between two hills and the mouse running up her skirt, but she also encounters a group of travelling circus performers, whose nomadic lifestyle and place outside of society represents an alternative to hierarchical social relations based on traditional gender roles and titles.²⁷

In the film's context of increasing physical and social mobility, the myth of the mandrake root takes on a new meaning. Central and constant in many forms of the myth is the danger involved in taking the root from its place in the ground.²⁸ When the mandrake root is ripped from the earth, it lets loose a terrible and deadly scream according to most versions of the myth. The separation of the root from the earth resembles a traumatic and violent experience through the mandrake's scream. Whether the scream is of anger or pain, the consequences are nonetheless deadly. The subsequent potential of the root to bring luck or misfortune introduces an unstable element that is reflected in *Alraune*. Also, the sense of rootlessness and the trauma associated with removing the root from the earth are central themes in *Alraune*. Rootlessness and social mobility are visualized in the last shot of the mandrake root against an abstract background, which once again is shown rotating and then dissolving into *Alraune*. The plant becomes a woman as easily as *Alraune* seems to discard her past.

The film, *Alraune*, seems to illustrate a shift in the perception of social stability in

27 The alternative lifestyle of the circus at times was construed as a threat. In an article in the magazine *Das Kriminal-Magazin* from 1931, the author speaks of the reputation of circus performers as unjustly connected to criminality (1667).

28 Gassen and Minol provide a good summary of the changing myth of the mandrake and its role in different historical contexts.

Weimar culture that occurred after the economic and political stabilization that began around 1924. In contrast to *Nosferatu*, where the instability has become naturalized, in *Alraune*, the increasing social stability encourages the perception of social mobility and changing gender roles as unnatural. The narrative of a plant becoming human functions as an extended metaphor for underlying anxieties surrounding the inability to discern social class from appearance in addition to fears of the increasing public presence and power of women. Although Alraune appears to be the typical member of the bourgeoisie, her appearance masks her origins. Alraune embodies the many different groups that compose the lower classes and outcasts from criminals, prostitutes or public women, racial minorities, and the circus performers. In the stabilization period of the Weimar republic, Alraune represents anxieties that all is not what it seems. By labelling Brinken's experiments as unnatural, Alraune's apparent ascent and assimilation into the "right circles" becomes by association against social rules. Brinken's descent into criminality is by the same token punishment for experimenting with the rules for determining social class.

In contrast, *Nosferatu*, represents social upheaval as a natural event resulting from a cataclysmic force that science and other social institutions are powerless to prevent. In both films, however, questions of social instability are grafted onto representations of plants that defy their traditionally assigned position in the "chain of being." In *Nosferatu*, the animalistic Venus flytrap, and the plant-like polyp, serve to naturalize fluidity, instability and transgression as a general state of nature and society: a "unifying principle" stretching from the microscopic world of the polyp to the upheaval wrought in Wisborg by the vampire. They reveal the film's terrifying proposition that the vampire-as-other is only a façade: that vampirism is ubiquitous and is in fact the norm rather than some outside or

other force. In *Alraune*, on the other hand, the promiscuity of a mandrake root becoming human – along with Alraune's continued proximity to the animal world – is represented as an act of deviance, for which the scientist Brinken must be punished at the end of the film. What these films share is the representation of fluidity between plant, animal and human worlds as something terrifying. Whereas a film like *Blumenwunder* could tap into the desire for a child-like experience of the world, in which plants, animals and people could exist in a tender visual proximity, *Nosferatu* and *Alraune* represent the loss of clear boundaries as a kind of nightmare vision, where the stability of clearly distinguished levels of being threatens to descend into chaos. If the former represented the utopian promise of film, the latter registered the anxieties of a society wrought by fears of social change.

Conclusion

The lowest animal, in this sense, is wholly comparable with the highest plants. The difference, which at first glance causes the animals to appear as living and the plants as lifeless, is due only to the *tempo* of events. All reaction movements are quicker in animals. The movements of flowers have been photographed and transferred to a cinematograph, and then reproduced in the *tempo* of animal movements. They gave the fantastic picture of some fabulous being in tremendous agitation. (Francé, *Germ of Mind in Plants*, 144)¹

In 1905, Raoul Francé remarked on the capacity of film to depict plant movement, noting the animal-like movements of plants revealed by these short time-lapse films. He recognized that films could help illustrate his concept of a dynamic natural world that contrasted with traditional botanist's practice of accumulating plant specimens, drying and labelling them. His remark points to two broad transformations at the turn of the nineteenth century that placed into question the classification, definitions, and hierarchies of life formed out of the Aristotelian and Judeo-Christian traditions. The first was intellectual – in reaction to what was seen as the excessive materialism and positivism of the mid-nineteenth century, many artists, scientists and writers turned to aspects of Romanticism and Vitalism. This intellectual climate provided the right conditions for a revival of Goethe's explorations of a dynamic nature and Gustav Fechner's speculations on a world soul; both had been ignored by their respective contemporaries in the scientific community, but found new resonances and new interpretations in the Post-Darwinian world. This intellectual climate overlapped with the emergence of new forms of time-based media that allowed plant movement to be visualized for the first time. Situated in this context, the

1 Das niedere Tier ist in diesem Sinne der hochentwickelten Pflanze völlig gleich. Der Unterschied, der unserem ersten Blick das Tier als lebend und die Pflanze als unbelebt erscheinen läßt, ist ur das Tempo der Vorgänge. Alle Bewegungsreaktionen spielen sich beim Tiere eben rascher ab. Man hat die Nutationen eines Pflanzensprosses kinematographisch aufgenommen und dann in dem Tempo einer tierischen Bewegung reproduziert. Sie gaben das phantastische Bild eines in ungeheurer Aufregung um sich schlagenden Fabelwesens" (Francé, *Das Sinnesleben der Pflanzen*, 86).

“dynamic plant” came to form a privileged motif, which illustrates a shift from classifying nature as a set of discrete objects within a materialist and mechanical perspective to one of processes, intuition and unity. New technologies such as film helped to visualize this “other” nature otherwise invisible to the naked eye. As the preceding pages have shown, the dynamic plant stands at the heart of these two broad transformations, illustrating the historical intertwining of technology with ideas.

In order to investigate the cultural significance of the dynamic plant in German modernity, five representative works from literature and film were chosen as case-studies for close readings divided in four chapters. The short stories were Paul Scheerbart's “Flora Mohr: Eine Glasblumen-Novelle” (1909) and Gustav Meyrink's “Die Pflanzen des Doktor Cinderella” (1905). The primary films were *Das Blumenwunder* (1926), *Nosferatu* (1921) and *Alraune* (1928). It was found that the examples could be placed along a spectrum from positive to negative reactions to the concept of a dynamic plant. At one end, plant movement was seen – in the tradition of romantic philosophers and scientists such as Fechner – as the trace of a creative force running throughout the universe and as an opportunity to understand and experience a radically different way of being. At the other end, the destabilization of traditional hierarchies that plant movement implied was seen as subversive and tapped into cultural anxieties about social stability and the body.

Chapter one focussed on Paul Scheerbart's utopian representation of the dynamic plant. Artificial and mechanically animated, the fantastical glass plants at the centre of his short story, “Flora Mohr,” are paradoxically an expression of “life” and “soul.” Scheerbart's spectacular flower gardens harken back to 19th-century visual spectacles such as the panorama and technology exhibitions at World's Fairs, but rather than representing

outward appearances, Scheerbart's mechanical plants sought (like Loïe Fuller's light and electricity dances) to imitate the *dynamism* of nature. Drawing on the ideas of Goethe and the Romantics, Scheerbart thus transforms industrial technology – an icon of materialism – into the vitalistic expression of a creative life force.

The perception of the plants as animated living beings and the enchantment of technology link Scheerbart's glass plants with the focus of chapter two, the film *Das Blumenwunder* (1926). Assembled from a collection of time-lapse films of moving plants and clips of flower and plant dances, the film interprets the accelerated plant movement as evidence of life, transforming in the process the technology of film into a means of accessing the creative force of nature. Through the juxtaposition of plant movement and dancers, in addition to the foregrounding of film techniques such as time-lapse and montage, film is framed as an interactive medium intended to teach empathy with plants through mimesis. The film is an exercise in building associations and diffusing distinctions between plants and humans. As with Scheerbart's short story, *Das Blumenwunder* also presents the complexity and movement of visual images as better suited to express life than language. Unlike the categorical thinking encouraged by verbal language, visual media, motion pictures, according to *Das Blumenwunder*, can facilitate a mimetic relation based on the recognition of similarities rather than distinctions.

In contrast to “Flora Mohr” and *Das Blumenwunder*, Gustav Meyrink's “Die Pflanzen des Doktor Cinderella” (1905) portrays animated plants as a destructive force, using the concept of a carnivorous plant to critique occultist practices, and materialism within the medical sciences for their Cartesian dualism of the mind and body. Occultist practices are criticized for inducing a state through ecstatic imitation where the soul leaves

the body, reducing it to mere matter – to a moving, sensing and acting plant. Here, the occultist practices overlap with the sciences, which are critiqued for viewing the world as mere matter (or body parts) to be exchanged freely as one would exchange parts of the machine without changing the nature of the being. Dr. Cinderella's animated carnivorous plants are a result of a chain of events that began with the occult and ended with gruesome medical experiments in a dark laboratory. Using human and animal body parts in place of leaves, berries and stems, Dr. Cinderella produces de-evolved humans and animals – reduced to the base function of plant growth. The resulting demonic plants subvert an underlying hierarchical order that places humans at the top, followed by animals and then plants, revealing, in the process, the fragile state of the unity of self and of the human being's position in relation to the natural world.

The demonic, carnivorous plant reappears in the two Weimar era films, *Nosferatu* and *Alraune*, as a reflection of the cultural anxieties surrounding the “foreigner” and the “new woman” after WWI. As with Meyrink's short story, both films blend the occult with science and technology to produce a monstrous animated plant. In *Nosferatu*, the carnivorous Venus flytrap becomes a metaphor for the way the intrusion of a foreigner into Weimar culture destabilizes the traditional hierarchies embodied (at least for Hutter) by the flowers at the start of the film. In *Alraune*, the blending of mandrake root and human produces a protagonist who appears to move freely between social classes. Measured against the traditional metaphor of the woman as flower, *Alraune* defies gender conventions in a similar manner to how the animated plant subverts the common expectation of plant behaviour.

Originally, I intended to focus this dissertation on time-lapse films. Many of these

films from the 1910s and 1920s were unavailable for viewing for various reasons – some have been lost and others exist only on copies of the extremely flammable nitrate base. But the few films I did view – including gems such as *Die Seele der Pflanze* (1922), *Pflanzen leben* (1920s) and *Das Blumenwunder* (1926) – pointed to a larger cultural preoccupation with the moving plant. These films made the slow movement of plants visible for anyone to see – a dynamism that has been often overlooked in face of the apparent inertia of plants in any single instant. I believe that the time-based films contributed to the reappearance of a reoccurring discussion surrounding the basis of plant life. One of the fundamental points of the discussion involves the nature of the plant as a living being. These films made visible the animal-like movements of plants, proving unequivocally for the viewers that plants are living and possibly sentient beings. In the chain of being that persists today as a reflection of how many people perceive themselves in relation to nature, plants are placed just above crystals and other mineral matter, suggesting that in the human perception of the natural world, plants are closer to inanimate objects than animals. The lack of attention to plants' movement allowed for them to be read as closer to inanimate objects. The time-lapse films of plants moving helped to change this perception of plants, making visible similarities between animal and plant movement – similarities further emphasized in the films I examined through the use of associative montage.

By connecting the motif of the dynamic plant to the intellectual climate as well as new media, this dissertation contributes to a growing field of research that addresses the relative neglect and denial of discourses around nature at the *fin de siècle*, as exemplified in the 2011 anthology, *Biocentricism and Modernism*. Edited by Oliver Botar and Isabella Wünsche, the anthology identifies a series of discourses, which they call “Biocentricism.”

While diverse and distinct, all of these discourses share a set of beliefs characterized by aspects of Neo-Romanticism and Neo-Vitalism. Although the goal of my research has not been to identify the films and short stories as biocentric (but rather to uncover the reactions to the transformations in ideas and technology), they certainly share many affinities with Botar and Wünsche's brief definition of biocentricism: "Nature Romanticism updated by the Biologism of the mid- to late nineteenth century" (2). Because of the affinities, many of the same names that Botar and Wünsche associate with biocentrism, notably Raoul Heinrich Francé, also appear in association with the motif of a dynamic plant. Since biocentricism shapes their anthology as a historical concept rather than a coherent school or a movement, the concept also helps to explain the diversity of films and short stories chosen for this dissertation that range from canonical to relatively obscure and in styles from fantasy and horror to expressionism and new objectivity.

This interest in the relationship between media and life at the beginning of the 20th century is echoed by a new kind of vitalistic thinking in film and media studies at the turn of the 21st century – one that sees media as able to convey the dynamic life processes of the natural world but in a sense also a part of that "life." Thus Sarah Kember and Joanna Zylinska refer to the "*vitality of media*," insisting on "our entanglement with media not just on a socio-cultural, but also on a biological level" (xvii-xviii). This view of media finds something of a precursor in Scheerbart's short story, "Flora Mohr," where the fantastical glass plants appear to foreshadow this doubled perception of media as representing the process of a living being and somehow also alive. Scheerbart's perception of media as life forms resonates with examples from Weimar film listed in Jussi Parikka's *Insect Media* (2010). Parikka argues that insects perform media and media can be also perceived as a life

form, citing the German language film, *Die Biene Maja und ihre Abenteuer* (*Maya the Bee and her Adventures*) (1924) as an early example of how insects were a lesson in “rational social organization” (42).² Parikka's specific focus on insects resonates with a broader recent tendency toward viewing and analyzing media as an ecology, which, in part, seeks to address the relations between material and immaterial aspects of media. One of the more seminal studies comes from Matthew Fuller, whose comprehensive book, *Media Ecologies* (2005), covers a range of topics from pirate radio to film with a reflective look at the term “media ecology.”

The view of media as life is often accompanied by the need to define consciousness, will or even soul. Part of Fuller's *Media Ecologies* is engaged with examining the “will to power” in media systems. By making visible plant movement, the early time-lapse films also helped to revive another reoccurring debate surrounding the nature of plants: whether they possess a mind and soul. Since Aristotle theorized that there are degrees of soul – the most basic being plants, then animals and ending with humans, the idea that plants may have a soul has repeatedly resurfaced. Drawing on the natural philosophy movement of Romanticism, Gustav Fechner expanded the definition of soul to include the plants and the cosmos in the mid 19th century. His ideas, at first ignored or derided by the scientific community, enjoyed a revival at the beginning of the 20th century with writers such as Kurd Laßwitz and Paul Scheerbart, botanists like Raoul Francé, scientists such as Ernst Haeckel and educators like Rudolf Steiner. While resonating with vitalism, this insistence that plants may have a kind of consciousness and even a soul was also bound up with currents of environmental thought that emerged around 1900, which promoted deep sense

2 Other examples he cites include the Weimar films, *Metropolis* (1927) and *Nosferatu* (1921). The first he compares to an ant colony with workers on the bottom and a queen on top (42). The second, he notes, translates between images and between the human body into other species (95).

of respect for the natural environment. This environmental message also clearly underlies the recent interest in the perception and being of plants in philosophy, represented respectively by Matthew Hall's book, *Plants as Persons* (2011) and Michael Marder's *Plant Thinking* (2013).

In tracing the effect of media on our perception of the plants in the early 20th century, this dissertation contributes to a growing body of scholarship within German studies that is concerned with questions of environment and culture. Classical ecocriticism focuses on the environmental imagination (Buell, *The Environmental Imagination*), literature and the environment (Glotfelty), the green German tradition (Hermand) and the culture of German environmentalism (Goodbody, *The Culture of German Environmentalism*). More recent books have expanded the boundaries from nation and language to the global imagination (Heise), looked to the future of ecocriticism (Buell, *Future of Environmental Criticism*), and sought to deepen its theoretical base (Goodbody and Rigby, *Ecocritical Theory*). Ecocritical approaches to literature highlight its role in shifting the perception of the natural world from the Western standpoints that encourage an increasing alienation from nature to an understanding of the self as embedded in the surrounding environment (Wilke 170). To some extent, all five primary works discussed in this dissertation lend themselves to an ecocritical approach. But the most explicit attempt to bring about a change in the perception of nature can be found in *Das Blumenwunder*, which represents aesthetic experience as a means to teach bodily communication with plants and respect of them as living beings. Scheerbart's utopian short story, "Flora Mohr," is an attempt to change the relationship of visual art to the natural world, using technology to replicate the flows and processes of a dynamic world rather than merely copying the

appearance of plants as static objects. The subtexts of the remaining three works – Meyrink's short story, “Die Pflanzen des Doktor Cinderella,” *Nosferatu* and *Alraune* – acknowledge the loss of traditional hierarchies responding negatively to the intellectual and social instability that loss implies.

Although both Scheerbart's short story, “Flora Mohr,” and Meyrink's “Die Pflanzen des Doktor Cinderella” take an explicit stand against Materialism, all of the works foreshadow to some extent what has become known as “new Materialism” in recent theory, as articulated in the Diana Coole and Samantha Frost's collection, *The New Materialisms* (2010). This perspective is characterized, in Coole and Frost's formulation, by a belief that “materiality is always something more than 'mere' matter: an excess, force, vitality, relationality, or difference that renders matter active, self-creative, productive, unpredictable” (9). Derived from the vitalist thinkers Gilles Deleuze and Henri Bergson, the approach recognizes the “realness” of matter that is also not a sum of its parts as in 19th century materialism. This view of matter resonates with Meyrink's dismissal of the machine model of plants as well as his rejection of occult practices that eschewed the body. His example shows that the rejection of Materialism as it was understood at the beginning of the 20th century was not necessarily founded on a rejection of the material world, but rather on a search for a model of being based on the complexity of life unfolding through time. The examples of literature and film discussed in this dissertation all grapple with the perception of a natural world that consists not of inert objects and stabilized social structures, but of dynamic plants that uncover the social and natural flux that characterizes any relationship.

There would be many directions for further research based on this dissertation. One

possibility would be to return to the early time-lapse films of plants and compare them to more contemporary films in order to find out how nature films have changed their representation of plants. Great strides into answering this question have already been made by Andreas Becker, whose survey of time-lapse photography and slow motion films on nature is both comprehensive and insightful. He traces the origins of time-lapse films with plants to German botanist, Wilhelm Pfeffer's, experiments with photographing tulips in 1898, and follows the development through early German *Kulturfilm*, Weimar cinema, Disney's nature films and David Attenborough's well-known nature documentaries. While narrower in scope, Oliver Gaycken's article "The Secret Life of Plants: Visualizing Vegetative Movement, 1880-1903" (2012) outlines the early developments of time-lapse photography of plants in Germany, and demonstrates the impact they had on the perception of plants in popular culture. As Gaycken's and Becker's research has demonstrated, the scientifically coded image of plants growing has made its way into the broader cultural understanding of plants. Through the discussion of the films, *Das Blumenwunder* and *Nosferatu*, this dissertation has begun to examine the way scientific images of plants have been integrated into mainstream feature films. The interpretations of moving plants in the two films differ greatly from one another and provide a glimpse into the cultural meanings of the dynamic plant as well as the cultural significance of certain plants. One possible avenue for further research would be to examine the way images of plants are integrated into contemporary mainstream features.

Another direction for further research would be to examine representations of dynamic plants within a broader selection of modern literature, extending beyond the German-speaking world. Especially within the science fiction genre, many examples can be

found of the dynamic plant motif. In his short story, “The Flowering of the Strange Orchid” (1894), the well-known English writer, H.G. Wells featured a blood-sucking orchid with tentacles, which grabs onto its victim. His story resonates with Meyrink's use of orchid imagery to depict of the vampiric tendencies of a beautiful woman in his short story, “Bologneser Tränen.” Another science fiction writer, the American, Howard Garis, wrote a short story, “Professor Jonkin's Cannibal Plant” (1905) featuring a carnivorous plant that attempts to eat its breeder, Professor Jonkins. These examples of vampiric plants indicate a trend in early science fiction of the demonic plant that is worth further exploration.

This dissertation comes at a particularly exciting time for German and Media studies. Not only are new fields of study, such as ecocriticism, being developed to address pressing real-life concerns about the sustainability of life on this planet, but also the role of media as the “other nature” is being examined for its impact on the environment and for how it shapes the way we perceive and interact with the natural world. By writing on plants in films and short stories at the turn of the century, I am tracing the way concepts and ideas impact our perception of plants, but also examining the way an intellectual climate is reflected in or has an influence on media and artistic forms, such as film, dance and glass sculpture to encourage certain interpretations over others. As represented in the motif of the dynamic plant, the variety of reactions to the intellectual and technological transformations at the turn of the century has provided a glimpse into the complexity of the relations between media and ideas – encompassed by a blend of resistance and acceptance.

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