WIND IN FILM: REPRESENTATIONS OF WIND ENERGY IN THE ON-SCREEN ANTHROPOCENE

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ABSTRACT

Wind and Film: Representations of Wind Energy in the On-screen Anthropocene

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Drawing on scholarship in energy humanities, this project uncovers the significance behind film portrayals of wind energy as a way of expanding knowledge of our relationship to alternative energy and its viability through the theoretical frame of object-oriented ontology. The thesis argues that the feature films *The Boy Who Harnessed the Wind* (2019), *Le Vent Tourne* (2018), and *Turbines* (2019) explore relations between human and nonhuman actors through narratives about wind and wind energy. These films challenge the traditional understanding of the active humans vs. passive nature binary by allowing nonhuman components of wind energy a degree of agency within the film narrative. Each film portrays on-screen "energy anxiety" that negatively affects a character's well-being based on fears of energetic instability, heightened by the implementation of wind. Overall, these representations communicate attitudes towards wind energy that challenge traditional belief in its potential as a sustainable alternative energy source.

DEDICATION

To my patient and caring family, friends, and instructors without whom this thesis would not be possible. Ad majorem Dei gloriam.

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INTRODUCTION

> For those who want to understand the past and present configurations of the human relation to the environment, and who want to do so in part to enable a significant change in this relationship so as to address the climate crisis, focusing on energy can help to identify a key, material component of human development that, while foundational to the form and character of human societies, is only now beginning to be seriously investigated.
>
> -Imre Szeman, "On Energy Humanities" (2016)

Energy is our most basic currency. As humans, our bodies consist of energy and depend on it to survive. We are made of matter. Matter made of atoms. Atoms made of electrons, fueled by an electromagnetic force, to orbit a nucleus of protons and neutrons. And within protons are even more infinitesimal devices that transmit energy, like crackling lightning in a bottle. Always present, energy is the glue that binds things into existence.

Just as energy unites our microcosmic, physical dimension, energy acts as an adhesive on the macro-scale. Our personal and professional lives rely on energy to power and sustain their cultural, economic, and political dimensions. Today, "scientific evidence for warming of the climate system is unequivocal" and most people recognize that our primary sources of energy, fossil fuels, emit massive quantities of carbon emissions into the atmosphere, dramatically and irrecoverably warming the planet and changing its climate ("Climate Change Evidence"). At this critical moment, raising awareness about our relationship to energy and the environment is urgent. In this context, energy humanities facilitates the ideological, affective, and political transformation required to move away from oil and toward renewable sources of energy. It

provides “a critical orientation that examines the infrastructures and subjectivities of modernity that arose through energy extraction and consumption” (Otjen 118). Energy humanities scholars read for the role of energy in constructing the spheres of culture, such as, “the political structures, built environments, social dynamics, gendered realities, educational systems, [and] discursive modes,” we rely on (Szeman 1). Petroleum, for example, significantly accelerated the process of modernity by virtue of its high supply and high energy output. Its worth was higher than the labor needed to extract it, making it a preferred form of energy often referred to as “black gold.” Through this industry, however, other cultural ideas have been influenced. Petroleum has historically “fueled” the beauty industry through the cosmetic uses of its byproducts. John D. Rockefeller’s historical market monopolization of his business Standard Oil defined the challenges of the United States’ Gilded Age, and sparked questions about the ethics and purpose of capitalist competition. Overall, scholarship in energy humanities acknowledges first that energy expenditure has enabled economic industrialization and global capitalism, and in turn, shaped the habits, virtues, and ideologies of modern life.

Given that over 85% of global energy consumption is sourced from nonrenewable sources, it is not surprising that most energy humanities scholarship attends to *petrocultures* or the social imaginaries that have resulted from oil dependence (Ritchie and Roser, “Energy”). As energy historian Christopher Jones argues, the dominant critical orientation suffers from “petromyopia,” by focusing too closely on oil (Jones 1). He emphasizes that the hyperfocus on oil tends to distort our understanding of other energy sources, such as nuclear and renewables (Jones 1). If our social existence can be imagined through the permeance of oil, what can be imagined through these other sources of energy? Moreover, what futures *should* we imagine if we are to move past unsustainable practices? My project contributes to a shift away from oil and

toward greener energy forms and infrastructures. It centers attention on wind and offers an analysis of the representation of wind energy in a sampling of contemporary films. Cinema allows us to begin making sense of the values and feelings we attach to other energies, like wind, and to imagine how we move toward more sustainable energy futures.

Of all the alternative forms of energy, wind is significant due to its global expansion in the twenty-first century. From 2000 to 2017, the number of countries generating wind electricity increased from 49 to 129, with the most recent output 36 times greater than its lowest in a single year ("Wind Explained"). Ethnographic research has explored the anthropological and political implications of the wind industry in booming regions like Mexico. My research incorporates the study of anthropologist Cymene Howe's work in the Isthmus of Tehuantepec. Her recent ethnography, *Ecologics*, explains an "undeniable shift" in how wind is seen to function in the last decade, now with the potential to "redraft the energetic relationship between humanity and the environment," as a strategy to mitigate climate change (Howe 23). Her colleague Dominic Boyer, in his political study, *Energopolitics,* finds the same communities in Mexico "wishing for wind to deliver something," and together the two scholars have recognized "that something"—wealth, hope, development—to be elusive and difficult to attain (Boyer 193). My research expands the discussion of wind's meaning to include representations of wind in transnational cinema. I ask what the portrayal of wind in transnational art and commercial films reveal about the ideologies, affects, and anxieties that wind energy generates. I examine three feature films that thematize wind: *The Boy Who Harnessed the Wind* (2019), *With the Wind* (*Le Vent Tourne)* (2018), and *Turbines* (2019). *The Boy Who Harnessed the Wind*, based on the book of the same title, is a British work directed by Chiwetel Ejiofor that recounts the true story of a Malawian teenager who constructs a windmill to save his village from famine. The film expresses an

anxiety about the future for the community while placing wind at the core of what Dominic Boyer would call *energopolitics*--the need to secure power over and through energy (Boyer 2). This production offers insight into the fears and promises of implementing wind energy at a time of poverty and climate crisis, representing the best of what wind power can offer: hope.

With the Wind, a Swiss art-house production directed by Bettina Oberli, chronicles a couple's broken relationship. The film aligns the couple's political values with their lifestyle and love, all of which are disrupted when, an engineer installs of a massive wind turbine on their property. Caught between fears of self-destruction and longing for sustainability, wind energy is placed at the center as a force with the potential to drive positive change.

Finally, I study directors Shane Borza and Igor Breakenback's low-budget thriller *Turbines*. When an immigrant couple arrives in Australia to work on a wind farm, the husband experiences the fictional illness, "wind turbine syndrome" that drives him to murderous mania. Here, wind once again promises security, but delivers unexpected and adverse results. I analyze the negative association with wind power to understand the problematic visions of a renewable-powered landscape.

In total, my thesis reads for the "energy unconscious" within films that do not directly claim a position on energy usage, but instead prioritize telling a story without a specific call-to-action demanded of viewers. I seek to make progress towards answering what our sustainable future looks like by analyzing what we currently believe to be "ecofriendly" and "clean" in the fictionalized present, which in this case, is wind energy.

Thesis Statement

The feature films *The Boy Who Harnessed the Wind* (2019), *Le Vent Tourne* (2018), and *Turbines* (2019) reimagine relations between human and nonhuman actors through their

portrayal of wind and wind energy. Overall, these transnational films reveal a newfound agency among the non-human components of wind energy that instill an "energy anxiety" within the characters as they struggle to build sustainable futures in a world facing impending climate crisis.

Theoretical Framework

Under the methodology of energy humanities, I use a degree of object-oriented ontology to conceptualize the presence of wind energy on screen and conceptualize the way each film affirms or challenges the relationship between humans and seemingly passive objects. Object oriented ontology (OOO) is a contemporary philosophical movement in the arts and humanities that seeks to identify the agency of nonhuman objects apart from human influence. More specifically, I draw ideas from OOO theorist Jane Bennett, who also specializes in American political thought, ecological philosophy, and contemporary social theory (Dobson 439). Her theory of *vibrant materialism* gives objects "thing-power" or the "curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle" (Marso 6). Through this lens, my research seeks to understand the portrayal of wind energy (an assemblage of elemental wind, turbines, and political power) in fictionalized films as something beyond a passive object.

This exploration is strengthened using anthropologist Cymene Howe's ethnographic study of wind energy, *Ecologics: Wind and Power in the Anthropocene,* which like Bennett, theorizes on the agency of human and nonhuman materials, the relations between them, and most importantly the significance of wind as a force of change. Her conclusions are drawn from the lived experiences of rural and indigenous communities in Tehuantepec, Mexico, in addition to a study of the political and economic implications of Mexico's wind industry boom. In relation to my thesis, Bennett provides a general framework in which to read events (in my case, film

narrative) through a lens of vibrant materiality, whereas Howe provides concrete ideas specifically about the agency of wind which can be compared to the representations and patterns displayed on screen.

Building on object-oriented ontology, I argue that wind's presence accentuates the *energy anxiety* of the films' characters. The term "energy anxiety" expands Nathaniel Otjen's observations about the "energy anxieties" that surround fossil fuels and energy's role in fueling societal infrastructures (such as war and colonialism) in H.G. Wells' *War of the Worlds* (Otjen 119-120). Where Otjen claims that Wells inserts alternative resources as an "anxious reaction to the overconsumption of fossil fuels," I study how on-screen productions, especially *The Boy Who Harnessed the Wind* (2019) and *With the Wind* (2018), implement wind energy as an anxious reaction to the fear of instability. While *energy anxiety* is expressed through preemptive measures to secure a sustainable future, it also comes into play as an anxious reaction to the development of wind turbines that appear to disrupt the natural environment and human well-being, primarily in the film *Turbines* (2019) To develop these ideas, I draw from E. Ann Kaplan's *Climate Trauma: Foreseeing the Future in Dystopian Film and Fiction,* in the way that it uses a psychoanalytic lens to examine the fear of environmental catastrophe from climate change--an event that is intertwined with the choices civilization makes about energy usage (Kaplan 39). Where author E. Ann Kaplan examines the relationship between our conception of "nature" and its impact on the human psyche, I explore the connection between the environment of wind farms to the mental and physical health of characters in *With the Wind* (2018) and *Turbines* (2019).

Finally, beyond an analysis of wind's portrayed role in each film and the future of energy, each film has a distinct voice to add to the energy humanities conversation at large. In

The Boy Who Harnessed the Wind, the relationship between humans and the environment is tied to cultural and religious practices. *With the Wind* calls attention to the flaws in two ideological approaches to livelihood: capitalism and eco-efficiency. And *Turbines* emulates a historical pattern of fear around the latest technology, especially for those of low socioeconomic class.

1. THE BOY WHO HARNESSED THE WIND

Ngati mphepo yofika konse--God is as the wind, which touches everything.

-*The Boy Who Harnessed the Wind* (2019)

1.1 Introduction

Chiwetel Ejiofor's feature-length directorial debut *The Boy Who Harnessed the Wind* (2019) brings the true story of 13-year-old William Kamkwamba's life-saving wind turbine to the screen. Based on the 2009 memoir of the same title by Kamkwamba and writer Bryan Mealer, the film presents a heartfelt story of famine, family, and faith in the village of Kasunga, Malawi. In this section, I argue that *The Boy Who Harnessed the Wind* promotes wind energy as a positive mechanism for overcoming energy adversity in a rural landscape otherwise left for dead.

The film opens in 2001 as the protagonist William Kamkwamba excitedly begins secondary school and his father, the hardworking farmer Trywell Kamkwamba, makes plans for the year's harvest. While the chief of the village warns against selling plots of land to the tobacco estates, rumors of unpredictable rainfall drive several farmers to sell to secure money for their families. To their misfortune, the harvesting of lumber by the tobacco companies disrupts the ecology of the plains; without a protective forest, all the crops are at the mercy of intense flooding, followed by an unprecedented dry season. As a food shortage begins, William's family can no longer afford his education, much less the grain imported from other territories. In the chaos, William continues to sneak into his school's library, where he comes across an American textbook *Using Energy,* which teaches William how to construct his own wind turbine. Determined and bright, William and his schoolmates gather all the needed materials, except for

the wheel of Trywell's bike, which is needed to allow the wind the turn against the dynamo and convert air into electricity. Trywell is reluctant to hand over his bicycle, which he depends on for transportation, and questions William's ingenuity, doubtful of the "silly toy" when there are fields to be toiled for the survival of the community. The film's climax is reached at the final confrontation of the two men's perspectives, when Trywell finally places trust in his son's attempt to regenerate the village's livelihood. In the end, the wind turbine generates enough electricity to irrigate the land and provide for the crops, and subsequently, the community as a whole.

1.2 Energy Transitions: A Leap of Faith

The Boy Who Harnessed the Wind begins and ends with the loss of life. The two-hour film takes viewers through the lengths of fear and hunger as loved ones perish or hang on the edge of survival, unsure of what future awaits. From the perspective of the Global South, *The Boy Who Harnessed the Wind* captures the suffering of those confronting poverty in a climate exhibiting early symptoms of global warming, offset by the triumph of William Kamkwamba's genius. In the balance of life and death, the village of Kasunga, Malawi offers a space that is liminal in both the spiritual and cultural experience of human life and the environmental, energy-oriented one. The film asserts that wind energy is a promising, positive force that performs as its own character.

To think like an energy humanist, the first step in this analysis is to, as scholar Timothy Mitchell states, "follow the oil," and navigate the way energy resources are presented in the mise-en-scène (118). Oddly enough, *The Boy Who Harnessed the Wind* presents us with a space that feels devoid of the aesthetic of oil and fossil fuel modernity, but rather begins with a reliance on more affordable energy resources, and a desperate need for innovation. Early in the film, as

William and his best friend, Gilbert, struggle to succeed in their secondary school science class, William explains to Gilbert that the key to getting high grades is the ability to study to at night. Although William begs his mother to use the kerosene lamp for study, she declines out of a need to conserve their money and resources in the wake of a potential small harvest. Energy is a precious resource, and the fear around preserving it reveals itself early in the film. After receiving poor marks on a test, William and Gilbert take to the junkyard for inspiration to solve their energy dilemma. At the beginning, William is demonstrated to be the village's designated engineer, as he fixes a neighbor's radio and later collects the remaining "juice" in old batteries to power a broadcasted soccer game for a club of senior teenage boys. With enough tinkering, energy problems are always solvable in William's mind. Things that appear "dead" are never without spirit that can be stirred, sparked, or transformed in one way or another. To William and Gilbert, the junkyard is a creative space for repurposing objects that are typically discarded, as they are in the petroculture that defines the Global North. In long shots the camera captures the wasteland of construction material, decaying automobiles, and scraps of machinery leftover from the tobacco estates. At the sight of accumulated trash, William playfully states, "There's been a delivery!" optimistic of what he and Gilbert can engineer out of the rubble. William and Gilbert in their bright red and blue school uniforms stand out among the pastel, sun-baked palette of rusted metal and sand-colored dust blown over by the wind. While Gilbert bench-presses the blades of an abandoned windmill, a nod to where William will draw materials from later in the film, William finds an old car-battery that inspires his construction of an electricity-generating tool. It is key to note that this scene is one of only a couple moments in the film that even contains automobiles, let alone other forms of fossil-fuel technology and transportation. Overall,

the decimated state of the junkyard conveys the state of fossil fuel modernity to be defunct and lifeless.

In the first five minutes of the film, William Kamkwamba and his family attend the funeral of their uncle, John, who has died suddenly of a heart attack. The priest recites that, "by the fruit, we shall know the tree," which continues the motif of death through acknowledging what is rotten and what is viable. The biblical adage is meant to comfort William's family by virtue of the "fruit" John left behind in his legacy, but the phrase frames the environmental, social, and political spheres of Malawi too. By the "fruit" of what we witness current energetic and political systems to produce, we can determine the vitality of their "trees" or structural systems in society. As Nathanial Otjen's notes in an analysis of "energy anxiety" in H.G. Wells' *War of the Worlds,* "fossil energies are unstable and prone to disruption, while non-fossil energies are consistent and reliable" (Otjen 122). The characters in *War of the Worlds* gravitate towards pre-modern energies, such as horse-drawn carriages and farm carts over cars and trains, when aliens destroy the modern, carbon-based technologies of society. In the wake of crisis, the characters anxiously seek cheap energy sources, and alter their identities in a "post-coal world" as they leave behind the "desecrated corpse of fossil fuel modernity" (Otjen 123). In contrast, *The Boy Who Harnessed the Wind* exists in a landscape that seems skipped over by fossil fuel modernity, not out of a lack of ability to develop but out of a scarcity of wealth and undebased government. However, where nonrenewable energy is present, as previously stated, the film captures its expired nature. Nearly halfway through the film, as hundreds from Kasunga gather to hear the newly elected president of Malawi speak at a rally, we get our second glimpse of oil through the expensive, slick black cars the government officials drive. The president, who boasts of a democracy Trywell believes "rots quickly," is quick to deny the existence of Kasunga's

flooding and growing famine by silencing their chief and having his service men beat him violently behind the scenes. Once caught by Trywell and his family, the servicemen and president make a rapid getaway, concealing their corruption and selfishness in the body of an attractive automobile. The next time a car is displayed on screen, it is Trywell and several men riding a truck to bargain once more with government leaders for financial aid and greater supplies of grain. They return to Kasunga empty-handed.

If fossil-fueled structures are directly or indirectly associated with blight, where is the good fruit? *The Boy Who Harnessed the Wind* captures the challenging transition the village must make from its limited energy resources, such as kerosene, to potentially "post-modern" renewable energy. The characters in our story anxiously cling to assets with consistent utility and affordability, because the state offers no infrastructures for cheap energy under the hold of privatization mandates from international financial institutions (i.e. International Monetary Fund). Without infrastructure for poor rural areas, families like the Kamkwambas protect the resources and objects that guarantee a rung on socioeconomic ladder. Trywell's bicycle best exemplifies one of these valued objects. Throughout the film, director Chiwetel Ejiofor gives several shots of Trywell and William riding together on the family bike, either to markets, fields, brokers, or upper-level businessmen. During one of these trips, a fellow farmer offers Trywell an ox cart, but he declines, because the bike is enough. It is this device that secures the Kamkwambas a bag of grain from the government aid building in the latter half of the film, as William quickly surpasses the crowds of people on foot.

The bicycle is the most coveted possession the Kamkwambas own, and it is no coincidence that it becomes the object that Trywell must sacrifice as a device to turn the blades of William's wind turbine. However, out of fear, Trywell is resistant to surrender the last reliable

asset and the last symbol of "tradition" in his labor experience. The proposal of a wind turbine, an unstable and unknown technology, from William poses itself as a threat that comes off as foolish to Trywell, who perpetuates a mistrust in his son's abilities as other male figures in Trywell's life have mistrusted his own crafted skills—from his father giving the land to John, his younger sibling, to John handing the land off to his son and not Trywell, the man with more experience. Overall, the bicycle is a symbol of socioeconomic status and self-sufficiency in this story, a necessary object towards survival as it has been in film since Vittorio de Sica's Italian neorealist cinema *Bicycle Thieves* (1948) in the starving post-WWII Rome. It is the dynamo of William's professor's bicycle that sparks William's belief in constructing a working wind turbine. Stable devices connected to our energetic and economic productivity emphasize the energy anxiety surrounding an uncertain, new, and potentially unreliable future. Although wind energy ends up being the "fix-all" solution to Kasungu's famine, poverty, and limited educational opportunities for William, it comes with risk and sacrifice. The symbolic presentation of affordable energy's value and petroculture's decay lays the groundwork for renewable energy's propensity for success or failure, seeing as our previous models have had their share of both. Regardless, to make a future of wind and renewable energy doable, the film argues that we will have to let go and transform our models of energetic success on the ashes of our mistakes laid to rest.

1.3 Wind: An Omnipresent Force

While the future is an unknown presence, wind is a tangible character in Kasungu that is characterized as a beast to tame and a divine helper. Throughout the film, the camera makes a point to capture extreme long shots of the village's surrounding landscapes. In the flooding, we get breathtaking eye level shots of swirling, ominous storm clouds and the nearly white ground

in contrast. Come the dry season, this is juxtaposed with a stark yellow palette as the sun beams down against the dust and scorched white cracked earth. Common to every season is the omnipresent wind, which is always brushing against William's shirt, his dog's fur, or the rustling trees as they are brought down by the tobacco companies in the beginning of the film. All throughout, the camera makes a point to establish a relationship between William and his environment, primarily the wind and sky, by frequently making cuts from these wide landscape views to close ups of William gazing pensively and back again to the view, establishing William's perspective, respectively. The camera work creatively establishes that "wind exists as a relationship among humans who negotiate value, access, and outcome," foreshadowing the connection William will make between wind and access to his desired mobility beyond poverty and famine (Howe 41). Overall, we as the audience are clued into the gears of William's mind turning and considering the environment around him; one so elusive, vibrant, and rapidly changing.

At a significant turning point, following William's discovery of the textbook *Using Energy* that will instruct him how to use a wind turbine to irrigate the dry fields, the scene changes to a gorgeous extreme long shot of a large dust bowl dancing at the eye level horizon. In the background we have upbeat, inspirational theme music that communicates to us an optimism about William's ability, and our own, to "conquer" the land around him. The camera pans, placing the back of William's head to the right of the swirling wind as symmetrical focal points in the frame. Side by side, the film treats wind as its own character, as a force to be reckoned with on the playing field of William. *The Boy Who Harnessed the Wind* is a story largely about relationships, such as trust between a father and son, and in this shot, demonstrates a need for us to "work together" with the tools the environment provides us in our energetic endeavors.

Moreover, what is interesting about the frequent shots of wind blowing through the trees, plains, and animals of Malawi, is the characterization of the landscape in religious and cultural beliefs of the various ethnic groups. Specifically, found dancing in the funerals that open and close the film or stalking through the woods, the Nyau society are a silent, masked presence in the film. A part of the Chewa, a Bantu people of Malawi and several other countries across central and southern Africa, the secret cult are known for their dances at significant life events, like funerals, and are understood to be possessed by the spirits embodied in the masks they wear (Sokhin, "The Secret Cult of Nyau Dancers"). In these spiritual performances, the person behind the mask is no longer there, and it would be highly offensive to call them by their "real" name. What makes their existence unique to our discussion falls on their cosmological beliefs. In Nyau mythology, God is present in everyday life; "God is male in the sky, like a great rainbow, and female, in the earth like a womb, where seeds germinate and are the source of new life" (Sokhin, "The Secret Cult of Nyau Dancers"). This concept makes the scene of the robbery, where the grain is stolen from William's family as his mother and sister, Annie, helplessly try to defend themselves, twice as brutal. While the threat of physical or sexual assault is present but never explicit, the desperate robber does, metaphorically, still commit this offense by selfishly grabbing the remaining harvest of the Kamkwamba family—the fruit of the female womb imagined as the fields where plant life flourishes. The film relies on gender difference, expressed in a binary opposition, to convey another source of depravity in Kasunga. When wealth and access to energy resources are limited, gender equality is a luxury. Men must suddenly protect women from those seeking power, lest they be attacked. Or in the case of Annie, despite her high achievements in school, the Kamkwamba's cannot afford to send her to college, so her escape from famine becomes marrying man with family out of the village.

If man is the atmosphere and woman the earth, the collaboration between them is the wind, the uniting force that impacts everyone living in the village and becomes the saving grace from crisis. Wind is created by the uneven heating of the surface by the sun, causing differences in air pressure and the lively movement of that air shifting pressures. In this poetic, cinematic way, Chiwetel Ejiofor gives representation to the Nyau people and their beliefs by the frequent cinematic characterization of the natural elements as having a spiritual agency about them. Howe makes a similar point by acknowledging that, "Wind is kinesis and air as interactive forces—between heat and pressure, to be sure, but also in relation to the world (or worlds) it touches" (41). The film concludes on a similar note, "Ngati mphepo yofika konse--God is as the wind, which touches everything."

By the end of William Kamkwamba's trials of hunger, violence, and the doubt by his father in his ability to construct a machine that could save them, he succeeds. The film concludes with the finished turbine and the entire village surrounds the fields to watch the turbine pumps water through them. Wind energy has come to symbolize a post-modern "salvational" object in Cymene Howe's words, "a social and technical apparatus to mitigate climate change in environmentally precarious times" (1). This is a concept also portrayed in *With the Wind* and *Turbines*, with the difference being that *The Boy Who Harnessed the Wind* takes it for what it is, while my other two films subvert the expectation of the success and reveal its flaws. William and his dedication to education and perseverance despite all costs, however, reflects a kind of "Protestant work ethic" that we are used to seeing in the Western mythic imaginary. It aligns with the fact that the Kamkwambas are practicing Presbyterian-Christians. Although this is a film about a family in Malawi with a large respect to the source material, it is still a British production through the eyes of a British director distributed to a largely Western audience through Netflix. The story the

audience takes with them is one of heroism and self-sufficient exceptionalism. Adversity brings out the best in people. Widespread crisis demands scientific innovation, and science will prevail. This idea is supported by Imre Szeman's analysis of "techno-utopianism" which is an attitude towards climate change and peak oil where "technology is figured as just around the corner, as always just on the verge of arriving" (Szeman, "System Failure" 814). Essentially, the presentation of wind energy is highly promising, as it becomes the "green hope" to save a society on the brink of collapse in this micro-example. By coupling this understanding with the story of William's hard work and the trust in modernity, when we reach the end of fossil fuels or an oncoming threat to human social and economic activity, we will be able to engineer and adapt our technology to continue fueling our needs. The message is optimistic and inspires audiences to imagine renewable energy as an answer to the flaws in petromodernity.

1.4 Summary

The Boy Who Harnessed the Wind ultimately values wind energy as a promising technology for constructing a future independent of fossil fuels. It highlights the agency of individuals like William in their ability to engineer the change they wish to see, as well as the agency of objects we might normally discard or take for granted. Energy transition is not easy; our *energy anxiety* lies in the security we may lose with the introduction of new technology. However, amid crisis, *The Boy Who Harnessed the Wind* communicates that the fear is worth the outcome.

2. LE VENT TOURNE (WITH THE WIND)

> We found people wishing for the wind to deliver something: money, electricity, influence, legitimacy, prosperity, development, power. At times, desire cloaked itself in mathematics, rationality, and common sense. At other times, it reveled in naked hallucination. Those who desired were rarely satisfied with what the wind had already delivered to them. What desire always accomplishes best is the propagation of more desire.
>
> -Cymene Howe, "Wind," *Ecologics* (2019)

2.1 Introduction

Le Vent Tourne (2018), translated as *With the Wind*, explores the human relationship to energy, the environment, and non-human life on an isolated farm, where a young married couple, Pauline and Alex, miles away from urban society attempts to install a personal wind turbine. With the hope of gaining full independence from the energy industry at large in this idyllic "off-grid" world, Pauline's desire for freedom creeps into her romantic life as the strong and charming wind engineer, Samuel, disrupts the tranquility of Pauline's emotions, marriage, and lifestyle. As director Bettina Oberli's first feature length film in French, one of Switzerland's three official languages, *With the Wind* debuted at the country's national film festival in the Piazza Grande of Locarno, Switzerland (Hoejj). The film can be categorized as "art house" in style, making a commitment to an artistic, experimental form of storytelling that does not compromise the director's creative vision for cinematic tropes or what is necessarily the most "marketable" for the audience. Oberli toys this line, however, with the contemporary setting and romantic plotline between Pauline and Samuel in a not-so-secret love affair. Nevertheless, the

wind-swept landscape of the film is breathtaking, thanks to cinematographer Stephane Kuthy's careful compositions and balanced shots of nonhuman elements—trees, skies, cows, mountains, machinery, winds—in a way that drives emotion (Hoejj). Frequently in between scenes of the main characters are a mix of extreme close ups and extreme long shots of these environmental components that communicate the intimacy between nature and humanity on the farm. It is this tactic among others that establishes wind as significant beyond the means of Pauline and Sam's meet-cute. In this section, I argue that *With the Wind* characterizes wind energy as a symbol for desire and acts as a metonym of a "green" lifestyle that is revealed to be rather gray and flawed. I base this argument on Cymene Howe's interpretation of wind energy's misguided association with salvation and explore the underlying anxieties that drive the motivations of the film's characters.

2.2 The Good, the Bad, and the Green

With the Wind opens with a quote from British novelist Rebecca West that foreshadows the inner turmoil Pauline faces in her love life, and ultimately, what we face as irrational humans in the wake of climate crisis:

> Only part of us is sane: only part of us loves pleasure and the longer day of happiness, wants to live to our nineties and die in peace, in a house that we built, that shall shelter those who come after us. The other half of us is nearly mad. It prefers the disagreeable to the agreeable, loves pain and its darker night despair, and wants to die in a catastrophe that will set back life to its beginnings and leave nothing of our house save its blackened foundations. (West)

Bettina Oberli's insertion of Rebecca West's quote frames the lifestyles of the film's primary characters. She communicates to us that our decisions are rarely rationally made; one side of us longs for stability and long-term happiness while the other is self-sabotaging, preferring impulsion, a passionate fire that may destroy everything save the "blackened foundations" of the world we create for ourselves and society. The quote introduces the duality of ideologies in the film. There are the "cynic" capitalists, Samuel the engineer and Pauline's veterinarian sister Mara, who find fulfillment in fossil fuel modernity through the accumulation of wealth (Sam) and confidence in the effectiveness of modern medicine (Mara). Pauline and especially Alex are framed as the eco-friendly idealists in opposition, as they eat only what they produce themselves, care for the farm animals with "natural" medicines and construct the wind turbine for self-sufficiency. Together, the couple hosts Galina, a chronically ill teenager from Chernobyl, who seeks to improve her health by spending time breathing the "fresh mountain air" of the Swiss Jura. In an earnest chat with Samuel the engineer, Alex reveals that their alternative energy project is motivated partially by a desire to "produce clean electricity naturally and independently of the nuclear industry and all of their crap." Pauline and Alex believe that their lifestyle is not only best, but also making a difference in a world that could not care less about the emissions and waste it produces, impacting human and nonhuman lives in impoverished spaces like the village Kasunga from *The Boy Who Harnessed the Wind*.

From the film's start, the green idealists are framed as those who are "sane" in Rebecca West's quote, longing for enduring peace and sustainability. The capitalists are associated with self-destruction; their impulsivity in the present model of resource consumption will lead to climatological and environmental collapse. The wind turbine is Alex and Pauline's latest aim at perfection in their eco-utopia. In a scene where Sam, Alex, and Pauline celebrate the installment

of the wind turbine with drinks around a campfire, Alex explains his view that "Capitalism destroys everything, our relationship with animals and nature. Even human relationships. So, we live differently." Although capitalism does not by definition need the fossil fuel industry to exist, it is important to recognize the economic system of endless wealth accumulation has been facilitated through the extraction of cheap energy lowering production costs. As scholar Frederick Buell asserts, "oil replaced coal's 'back-breaking labor' and widening of social caste with an energy infrastructure that seemed to support entrepreneurial individualism" (qtd. in Lemenager 5). The excess and ease of extracting petroleum furthered socioeconomic development and the competitive entrepreneurship we associate with capitalism. In contrast, Alex and Pauline preach a "gospel of eco-efficiency, which focuses on the environmental and health impacts of industrial activities and urbanization" and seeks a "sustainable management of natural resources" (Mart′inez-Alier 5). Alex and Pauline's commitment to their "clean" and "natural" lifestyle coupled with their ambitious wind turbine project thus positions wind as a "promissory force" in Cymene Howe's words:

> Unlike mining, logging, or drilling for oil, wind power generation is supposed to, in part, save the world. Infrastructural programs that claim to climatologically benefit the "greater good" hold a particular ethical ballast. Renewable energy projects would seem to righteously, and rightly, drown out the banal drone of greedy shareholders or demands for cheap fossil fuels. Wind power offers both redemption from dirty energy and, in places where wealth is sparse, the potential of economic salvation. (Howe 9)

The promise of wind energy is hope. Just as wind acted as a deus ex machina for the village in *The Boy Who Harnessed the Wind,* wind power is presented here as a liberating force. More so,

With the Wind expands our understanding of renewable energy beyond solely its utility. For Alex and Pauline, installing a wind turbine enacts their values and ethics. Not only is it better for us to switch to renewable resources, but participating in fossil fuel modernity is framed as reckless and unethical.

Nonetheless, the film does let our assumptions of what is "good" and "bad" determine the value of energy. *With the Wind* follows the *process* of constructing a wind turbine, which in its ups and downs reveals the flaws in the couple's one-sided green thinking. During the fireside chat, Sam responds to Alex's pride by calling their project "useless…even selfish" and acknowledging that "millions of people all around you enjoy their central heating and air-conditioned cars. That's the problem." Sam brings forth a common critique of sustainability as its own lifestyle or consumerism. As Imre Szeman recognizes, "one of the characteristics of our oil modernity has been the privilege of taking energy for granted, despite (or perhaps because of) its importance in shaping every aspect of the modern experience" (Szeman 8). Individual actions alone cannot shoulder the burden of centuries of fossil-fuel dependence that continue today, as long as industrial societies and popular culture take it for granted. Can everyone be expected to purchase organic foods? Can everyone be expected to access independent electricity? Should everyone live zero-waste? It is tough to wrestle with the solutions to climate change and energy transition when we take into account the socioeconomic inequality that prevails across the world. Alex and Pauline, living on an inherited farm with middle-class income, can mitigate their carbon footprint only because they can afford to do so. Moreover, the film questions if it is the responsibility of individuals, forming a culture, to diminish the impact of carbon emissions, or if sustainability falls on corporations and fossil-fuel infrastructures that have a larger impact on the planet? Through the perspective of Alex and Pauline we witness the way the wind turbine masks

the imperfections of sustainable thinking. The installation of the turbine is just the installation of a scarecrow on this farm—a quick fix that scares away fears of atmospheric destruction, but does not in and of itself eliminate long-held attachments to oil and environmental damage.

It is arguable, however, that Samuel's argument is the real straw man. He attacks the image of Pauline and Alex's eco-idealism. Although Samuel's motivation as an engineer is income, he admits as the one installing the turbine that he "doesn't have the answers." Afterall, energy-humanists would argue that, "neither technology nor policy can offer a silver-bullet solution to the environmental effects created by an energy-hungry, rapidly modernizing and expanding global population" (Szeman and Boyer, "The Rise of Energy Humanities"). What bothers Sam is not the desire for a healthy relationship with energy and the environment, but what appears to be a "lack of pleasure" living sustainably. Although in the context of the film's romantic plotline this comment alludes to Sam pining for Pauline, aware of her unpleasant marriage with Alex, there is a level of fear in his tone. When we imagine a renewable future and take ownership our actions, what will need to change? To live in a world fully aware of the impact of fossil fuel dependence demands an urgency to alter our most deeply ingrained habits of consumerism and its association with indulgence and pleasure, especially in the Global North where consumption is high. In the extreme case, there can be a repulsion we feel towards sustainability, out of anxiety for the habits and systems we would have to sacrifice to make a real difference. Pauline and Alex sacrifice eating processed foods, sacrifice access to cheap, preexisting electricity, and sacrifice solutions to their farm's productivity (i.e. processed fertilizers and antibiotics for the animals), and find themselves living isolated from the urban, contemporary joys of Swiss culture. Is it worth it? To Sam, Pauline lives without pleasure, so driven by her commitment as an environmentalist that she embodies a nearly ascetic lifestyle.

While wind energy is posited as freedom for Pauline, it is connected to conflicted emotions, and is perhaps not, stealing Cymene Howe's phrase, the "antidote for the Anthropocene" we think (190).

2.3 Emotional Turbulence

With the Wind's plot hinges on the character development of Pauline, who is triggered by her romantic interest in Sam to reevaluate her failing marriage with Alex. As Pauline comes to recognize the truth of her relationship to Alex, the farm, and herself, she eventually accepts her own desires for escape. While the wind turbine symbolizes a freedom from petroculture, it also comes to symbolize Pauline's desire for personal freedom and acts as a character that disrupts Pauline's false sense of reality, revealing life's imperfections.

Our first visual encounter with the turbine, Sam, and several large trucks and machinery is rather jarring. The scene opens on Pauline, Alex, and Galina moving several large tree branches as a cow saunters forward to in frame. The sun shines brightly, almost to a point of overexposure in the camera lens against the deeply saturated greens and blues of the forest, field, and farmhouses. Farm life appears tranquil. The camera closes in on Pauline in a medium close up, and as we hear excited shouts from Alex yelling "They're here!" the camera lingers on Pauline's face for her reaction, one that begins with concern and curiosity, moves to a small, forced smile, and returns to caution as Alex runs towards the massive rotor blades on the 18-wheeler truck. The camera cuts to give a long shot of the turbine blade, which is only able to fit a third of its size in frame. We get a quick glimpse back to Pauline and Galina staring in wonder from a medium shot, then an extreme long shot of several autos—a bulldozer, an excavator, a large pickup truck—sprawling out across the field, the engines rattling. The camera pans shakily left to expose Pauline's line of sight as a car speeds to the farmhouse, clouds of dust trailing

behind, only to abruptly hit a piglet running into the frame from the right. The pig squeals in pain and Pauline shouts in anger, racing to cradle the bloodied, dying creature in her arms. Sam is the driver. Indifferent to what he has done, he offers a brief apology and to buy the pig to eat, to which Pauline can only shout a profane curse.

This introductory scene to Sam's character establishes his capitalistic mindset, primarily through his traditional view that nonhuman life only has value in what it can offer humans. Pauline does not see this as an even trade; she turns away Sam's cash and instead of opting to mercifully kill the pig, rushes frantically to her sister Mara, the local vet, to do all she can to save its life. Jane Bennett would urge us to push against Sam's disregard for animal species, as Pauline does, to recognize "a possibility of mutuality that comes, at least in part, through shared fears of extinction" (169). All in all, the automobile Sam drives and the crewman's trucks, which "embody petromodernity in almost every way, from their masculinist stereotyping to their fossil-fueled metabolism" are portrayed as the disruptors to the harmonious rhythm of life on the farm we have witnessed in the first five minutes of the film (Howe 74). Pauline is initially skeptical, and then is quickly challenged by Samuel's presence. While Pauline grows more and more attracted to Sam's worldly perspective, laid-back nature, and consumerist freedom over the course of the film, this opening scene also gives insight into the position of the wind turbine being "disruptive" and not delivering entirely what was expected.

The film makes frequent use of long shots and extreme long shots of the turbine in the middle of the field at low angles to emphasize the magnitude of its height, size, and looming quality over the humans and animals on the farm. The shots are often interwoven with close ups of characters' faces, usually Pauline's, gazing upwards, in awe. There is something haunting about these transitions; they establish a relationship between Pauline and the wind turbine, where

she looks to it for answers and is reminded of Sam at every glance. Once the machine is finally running on its own and Sam is gone, in a pivotal scene at night, Pauline is awoken from sleep and driven to total frustration. The "whirring" of the turbine is loud; while Alex can sleep soundly, the churning of the blades mimics that stirring of Pauline's thoughts and emotions. She decides to go out towards the turbine; captured in a long shot, Pauline looks like David facing the giant white Goliath. At the base of the turbine, she smashes the circuitry to pieces, desperate to have Samuel return to the farm, without care for the sustainable dream—of growing old together as a couple and in the protected eco-utopia—she and Alex built, embodied through the likeness of the turbine.

2.4 Summary

In this chapter, I have analyzed the way that *With the Wind* invites debate around two approaches to energy and consumption in a time of oncoming climate change. Rather than condemn one or the other, Oberli reveals a degree of ambiguity as to which ideal—the petroculture of capitalism or clean environmentalism—is "better." She creates a space for viewers to enter this conversation around energy transition for themselves. The expectation of wind energy to perfectly resolve Pauline and Alex's fears of fossil fuel dependence is symbolically portrayed as flawed in its inability to save their marriage. Pauline chooses Sam, demonstrating that she still holds onto a desire for the "pleasure" that reckless consumerism can provide, the ideals that Sam represents. Overall, the introduction of the wind turbine is a traumatic disruption to the tranquility of the off-grid farm, and Pauline wrestles with the need to destroy and later rebuild it. This plays out as a metaphor for an alternative energy future. The implementation of wind will not be straight-forward nor the solution that will dramatically change the culture that brought us to self-destruction. It will take time and several retries.

3. TURBINES

> As the turbines lumber through their patterned acrobatics, there is a sonic dimension to the interplay between the wind and blades. A massive respiration and then stilled quiet...We are up close to the turbines now. They are immense and imposing and impressive, and they have a warning sign on them: DANGER.
>
> -Cymene Howe, "Wind," *Ecologics* (2019)

3.1 Introduction

Green. Efficient. Deadly. A slogan easily attached to The Hulk, the phrase was actually printed on movie posters to describe wind turbines in the low budget horror-thriller *Turbines* (2019). Directed by Shane Borza and Igor Breakenback, a team new to the filmmaking industry, *Turbines* twists the optimism of wind energy into a dangerous antagonist for an isolated immigrant couple in the Australian outback. The film draws on modern fears from rural citizens about the psychological effect of "wind-turbine syndrome," a pseudoscience that becomes the cause of main character Attila's murderous mental break. In this chapter, I explain *Turbines*'s unique approach to capturing wind turbines as a cinematic villain, its use of the family as a means symbolizing energy security, and its use of energy anxiety through an exaggeration of wind turbine syndrome. I conclude that through these lenses *Turbines* reveals a self-destructive sphere of humankind's movement towards eco-friendly expansion and reevaluates the relationship between human and nonhuman by granting both turbines and the empty, windy environment a degree of agency in their ability to influence the psychological (un)well-being of man.

Turbines (2019) follows immigrants Attila and Jana, who have a vaguely Eastern European accent but no disclosed origin, as they arrive in a rural town in Australia as part of a government program to repopulate isolated areas. Promised full citizenship upon the completion of the two-year work program, Attila and Jana excitedly move into their home. As the couple attempts to settle in and start a family, Attila's new job as a maintenance man on a wind farm has adverse effects on his physical health and psyche. He becomes easily agitated, nauseous, and often stares into space for hours, unaware of time passing. The once loving, intimate relationship between the newlyweds is challenged by Attila's dissociative and agitated behavior, causing him to isolate himself emotionally from Jana. The tension increases after Attila becomes possessive over their newborn son and begins to resent Jana's "nagging" with a misogynistic attitude. Fast forward five years, and Attila has reached his psychological breaking point. At the same time, graduate students in the area are conducting an investigative research project to uncover the effects of "wind turbine syndrome." News outlets report a strange increase in the number of dead animals around town. Although it is never stated, the audience draws the conclusion that Attila has been using the animals as an outlet which quickly loses its appeal, leading Attila to murder his wife. The film hides this truth from us as Attila hides her body from their five-year-old son, delaying the reveal until the end. The murder triggers Attila on a homicidal path to kill his workmates, the researchers, and eventually the local law enforcement, where the film ends in a bloodbath.

3.2 Downwind into Madness

The most novel feature of *Turbines* is its cinematic portrayal of wind as a true villain, a plot twist that challenges wind energy's promising image. The film's trailer implies that the serial killer is Attila, while the wind farm functions only as a background feature. However,

Turbines (2019) is less about a murderer on-the-run than it is about the slow deterioration of Attila's state-of-mind. The first half of the film is absent of any blood or gore. The film gradually settles the audience into the strange, isolating environment alongside Attila and Jana adjustment into a new home, job, and tiny community. Scenes that establish the romantic and playful dynamic between Attila and Jana tend to linger longer than necessary, and the dialogue in these scenes feels overdone (one scene captures Attila and Jana asking back and forth "what did I forget?" for over a minute). The temporal focus on the couple's domestic lives and mundane jobs emphasizes the uncomfortable, static environment of remote Australia, as well as their loneliness as immigrants in "limbo" without official citizenship. This feeling is best described on Attila's first day of work, where he expresses his excitement for the job and new life to his employer Sean. All of Attila's ambition is quickly interrupted by Sean's sharp comment, "So you are stuck." Dejected, Attila pauses and hesitantly agrees, "Yeah, I'm stuck," which foreshadows the extension of their stay through the bureaucratic failures of the migrant-work program and the mental "stuck-ness" he is about to experience.

This choice to focus on Attila's family, desires, and psychological state emphasize his position as the film's protagonist undergoing a type of "villain origin story." Throughout this time, the directors cut to long takes of looming wind turbines in between scenes. The mind-numbing "droning" and "whirring" of the turbines find themselves keenly in time with the opening score, and present throughout several sequences, often moaning beneath dialogue or raging through Attila's mind. This use of diegetic sound is also paired with a high-pitched ringing in Attila's ears to capture his disorientation and frequent dissociative episodes. Although Attila's deranged actions are not defended in the second act, Attila remains a victim to the antagonistic violence of the wind turbines in disrupting his mental state.

The first psychological break we witness occurs a little over a third of the way into the film, which uses shot angles, color saturation, and ambient wind sounds to characterize the impact of the wind turbine on Attila's well-being as well as characterize what "wind turbine syndrome" looks like on screen. In the scene prior, the camera tracks in a semicircle around Sean and Attila hammering a fence on the farm, with several turbines strewn across the horizon in the distance. At this point in the film, the audience is unaware that Sean is undergoing "wind turbine syndrome" himself and is also on a murderous path. He hands his hat to Attila, as a way of communicating to us in hindsight that he is "passing the torch" to Attila as a serial killer, moved to aggression by the turbines' impact on his psyche and enunciation of his underlying frustrations of isolation and political, economic, and social stagnancy. The camera circles around the pair at a intense angle rotated horizontally. Known as the "Dutch tilt" or "Dutch angle," this filming technique communicates unease and disorientation as our brains try to process the movement in the shot from a non-traditional position.

Following the bright farm and distorted angle, the camera captures Attila at a medium close up sitting next to his wife at the kitchen table, at a standard, eye line angle. The composition has shifted from the sunny, high-contrast environment of the wind farm to a dark, saturated room cast in shadows and a distinctive blue filter that brings out all cool tones. As Jana leaves the kitchen to check on the baby in the bedroom behind Attila, the camera makes three cuts that demonstrate closer shots of Attila's face. Eventually, in an extreme close up, we see only Attila's face, and watch his pupils oscillate rapidly while his face remains stern. A "whooshing" sound, like a gyrating fan slowly fades in and increases in volume accompanied by a sustained high-pitched note. The tempo of each sound raises until the volume reaches a maximum and drops out completely at the sound of Jana reentering the room. Attila remains

unphased and unmoved until she reaches a hand on his shoulder to hand him their baby. Attila is shaken awake from his daze, and suggests dinner for his wife, to which she responds, confused, by saying it is morning. In a frightening twist, we realize that a matter of seconds for Attila and the audience has been several hours in the diegesis. At this knowledge, combined with a concerned Jana asking to hold the baby, the camera introduces another Dutch angle this time from a medium-close up, with Attila cradling the child away from Jana and looking menacingly up towards her face, which is out of view. He asserts, "I'm playing with the boy," and commands Jana to make them breakfast. The final shot is of a frightened Jana slowly backing away from the pair in medium shot.

The film's slow pacing, "droning" audio tracks, and careful camera work ultimately draw attention to turbines as dangerous by eliciting fear. Based on Cymene Howe's ethnographic research in *Ecologics*, there is something about the elemental qualities of wind that can be characterized as powerful, "Wind becomes contoured by objects in its path….it willfully exercises its force upon these things: carving, cracking, pressuring, and leaving its ventifacutal imprints" (Howe 23). Like any element, there is a balance of power that occurs between it and humans; the balance of surrendering to its massive force and exerting control over its energy through technology, as though domesticating and harnessing the wild element. In philosopher and political theorist Jane Bennett's perspective, these nonhuman forces exhibit "vitality" (Bennett 9). By "vitality" she implies "the capacity of things— edibles, commodities, storms, metals— not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own" (Bennett 9). *Turbines* appears to play on the fear of succumbing to these natural forces, that by our own attempts to advance in modernity, we may doom ourselves by unforeseen impacts of tech. A similar story is

depicted in Boon Joon-ho's critically acclaimed *Snowpiercer* (2013), in which a train carries the remainder of the human race across a frozen tundra, a consequence of our attempts to "freeze" an atmosphere facing global warming.

Based on my reading of Howe, our fears about the unknown consequences of alternative energies are validated outside of fiction. While describing the interpretations and misconceptions of turbine technology in Mexico, she stated, "Whether or not the turbines in fact "eat the air" is one question, but the fact that they are believed to is indicative of other questions and concerns. Turbines occupy a semiotic field, and their towers function as a location for anxieties and apprehensions" (Howe 39). The frequent shots of the ominous wind turbines and their visual impact on Attila ultimately associate fear with the presence of new technology, especially as it appears to prey and harm vulnerable populations, like immigrants, with limited social capital or resource access. The energy anxiety of *Turbines* is a fear of foreign devices and is driven by our desire for stability in our health, relationships, and surrounding environment. Attila longs to provide for his family, with a fixation on protecting his son and the world his generation will inherit. This fear is similar to E.A. Kaplan's study of "pre-traumatic stress syndrome" that induces anxieties about what has not yet happened, especially as we imagine climate catastrophe (Kaplan,"Is Climate-Related" 82). In her analysis of the character Michael, from Paul Schrader's *First Reformed* (2018), she examines that, "[Michael's] deepest terrifying thought is that his child, once living in a desecrated, collapsed biosphere, will look him in the eye and ask why he brought her into such a world" (Kaplan,"Is Climate-Related" 88). Attila's mental collapse, the presumed failure of wind's promise and empty opportunities of the inescapable Australian landscape relay fears of the future on screen for audiences to experience. However, fear of the

future, especially technological transition, is no new pattern. In the next section, I explore the "true events" *Turbines* claims to base Attila's journey of mental illness upon.

3.3 Wind Turbine Syndrome: A Sensational Phenomena

In a 2014 study, researchers G. James Rubin, Miriam Burns, and Simon Wessely, breakdown the phenomena of "wind turbine syndrome" (WTS) and propose psychological mechanisms that contribute to belief in the unofficial diagnosis. To be considered a possible side effect of wind turbine syndrome, a person must, "live within 5 km of a wind turbine, have experienced an 'altered health status' since their exposure to it; experience amelioration of their symptoms when more than 5 km away from the turbine; and experience recurrence of their symptoms when they return" (Rubin, et al. 117). Although *Turbines* (2019) does not portray a moment away from the presence of wind entirely, Attila's condition is heightened in every scene on the farm, cued by the close-ups of his menacing face, piercing ringing, and all-consuming droning sounds of the turbine spinning. The use of diegetic sound in the film excellently conveys the greatest argument by proponents of wind turbine syndrome, who believe the noise produced by turbines both indirectly and directly affects them. A noise that disturbs sleep or cause stress or annoyance in people can result in other health effects, which is an indirect effect of the sound (Rubin, et al. 116). Wind turbines also produce infrared sound, which occurs at frequencies usually below the level of human hearing. Proponent of WTS argue that what cannot be heard produces adverse health effects, but experts have concluded that, "there is no clear physiological mechanism," to explain the assertion (Rubin, et al.116). What is a contributor to adverse health effects, however, is our expectations of having them. Rubin, Burns, and Wessely note that nocebo effects, the negative health symptoms that occur when expecting harm, are common in double blind drug trials where an inert substance is given, but users are warned of potential side

effects upfront. The anticipation of possible pain is what creates pain in these scenarios where nothing harmful exists (118).

Historically, new technologies have often produced physical symptoms in the people who live and work with these unknown machines. In the 1780's, the workers in newly constructed cotton mills of Northern England suffered persistent collapse, to which medical professionals concluded that "the symptoms were merely nervous, easily cured and not introduced by cotton" (qted. in Rubin, et al. 117). A century later and fatigue symptoms were called "neurasthenia" and falsely attributed to "the periodical press, the telegraph, the sciences, the mental activity of women and the erosion of religious faith" (qted. in Rubin, et al. 117). Today, people claim to experience "electrosensitivity" to everyday sources of weak electromagnetic fields like Wi-Fi or cell-phone towers. While they do experience symptoms in proximity to electromagnetic fields, these reactions only occur when they *know* they are being exposed (Rubin, et al. 117). In double-blind conditions the symptoms do not occur (Rubin, et al. 117). Understanding this pattern of historical fear informs our current associations of technologies like wind turbines. Overall, in response to WTS claims, the study states that, "Nocebo effects, misattribution and increased symptom monitoring triggered by worry or annoyance can all help to increase symptom reports among communities which play host to a novel or controversial technology" (Rubin, et al. 121). The hyper-awareness of symptoms, illness, and harm are powerful enough to manifest our fears into physical experience. Moreover, what can increase this anxious conscience is the sensationalizing of these topics in social circles and media. As concluded by the study, "In turn, these effects can be exacerbated by the social context that often accompanies a new technology, including sensationalist media reports, activist literature, interaction with others who describe

adverse health effects, public disagreements between scientists and an unfair distribution of the risks and benefits from the technology" (Rubin, et al. 121).

Australia has a long history of wind energy, with its first modern, grid-connected turbines operating in 1987 (Chapman and Crichton 5). In 2017, Australia ranked #17 in the world for installed wind energy capacity at 4.327 GW (Chapman and Crichton 5). The United States was ranked #2 with 82 GW (Chapman and Crichton 5). Active anti-wind farm groups began to crop up quickly in response to the growth in the late 90's and early 2000's, pushing against development out of concern for birds, the preservation of natural landscapes, and the belief that climate change was not real. In *Wind Turbine Syndrome: A Communicated Disease*, public health experts Simon Chapman and Fiona Crichton offer rebuttals to each of these claims and make the point that, "case studies in Ireland and Scotland review that 'aesthetic perceptions, both positive and negative, are the strongest single influence on individuals' attitudes towards wind power projects,'" (qtd. in Chapman and Crichton 19). The negative attitude towards wind in Australia's history and the wind "imaginary" of our time is fashioned into the thriller *Turbines* by painting wind as a threat against our livelihood through wind turbine syndrome. However, based on studies of the phenomena, we know that this attitude is rooted in fear, and made "real" only through acceptance of energy anxiety. *Turbines*, therefore, artfully captures the worst of our frightened imaginations around wind power.

3.4 Summary

Overall, *Turbines* takes a unique spin on the slasher-thriller by validating our energy anxieties through an exaggerated imagining of wind turbine syndrome. As wind is portrayed as the dynamic villain to Attila's psyche, the film is more likely "tilting at windmills" than presenting a real phenomenon to fear, based on case studies of the health symptoms.

Nevertheless, *Turbines* enhances our discussion of wind energy by offering reasons to think twice about its development.

CONCLUSION

Through a critical film analysis of wind energy's presentation in contemporary feature films, this thesis has sought to answer the question: What values and anxieties are attached to wind energy? Based on the themes and motifs presented in these international films, wind power is viewed as a promising, hopeful technology, but one that is not a "fix-all" to our environmental problems. It is in every context a lively force that defines its surrounding environment, including the characters that inhabit these rural landscapes on screen. A recurring feeling of "energy anxiety" surrounds the implementation of wind energy in each film, which emphasizes both our attachment to petromodernity and the fear of introducing a new technology with unknown consequences into our lives. Because energy plays an integral role in shaping our daily habits and activities, it makes sense that we may frame it as the linchpin to sustainability or self-destruction. Our anxiety surrounding wind hinges on a need for stability, which is also framed through the desire to protect relationships between loved ones across the narratives of the films in this study. Wind energy is thus deemed a possible solution for our anxiety by alleviating it and securing a future that is renewable and free-standing. Or, in contrast, wind energy is an industry that increases our anxiety by failing to solve all the problems we expect or by creating new ones. The truth, as emphasized through the films, depends on cultural context and perspective.

In chapter one, I analyzed *The Boy Who Harnessed the Wind* (2019), where wind power fulfills the role of a "salvational object" that rescues the village of Kasunga from famine. Based on my analysis of the presented symbolic importance of simple energies accessed by the impoverished and the empty promises of fossil fuels, wind power is painted to be the life-saving force following the path of "techno-utopianism." Moreover, the association of wind and the

divine is expressed through the spiritual beliefs of the Nyau ethnic group in Malawi. With an acknowledgment of wind power's potential through its sheer magnitude and William Kamkwamba's potential through his ingenuity and work ethic, *The Boy Who Harnessed the Wind* views wind energy as a force that is promising, should we choose to use our wit to embrace it with our modern sensibilities. Through the doubt and eventual trust Trywell Kamkwamba feels towards his son's endeavors, the audience is able to wrestle with its own doubts about the future of renewable energy and consider the lives we would do anything to protect from catastrophe, especially climate crisis.

In chapter two, *With the Wind* (2018) creates a dichotomy between the lifestyles of those who embrace petromodernity through capitalism and those striving for sustainability to the extreme. Through a fear of "toxicity" and desire for a "clean" lifestyle, energy anxiety presents itself as a fear of being unable to find a healthy relationship with energy, nature, and each other. With the belief that a wind turbine is the answer to an idyllic eco-friendly life, *With the Wind* exposes the weaknesses in associating renewable energy with moral superiority and perfection. Over the course of main character Pauline's journey of self-discovery, wind energy is conveyed as a valuable technology, but also an interruption to Pauline's understanding of reality and her intimate relationships with the people around her.

Finally, in chapter three, *Turbines* (2019) presents a horrific landscape in which the vast, sunny expectations of wind farms are subverted into being dangerous and terrifying. Wind turbines are framed as an antagonist that causes psychological dissociation, headaches, and a homicidal desire within Attila's interior, leading him to act on the frustrations of his unauthorized immigrant status and fear of others, including his wife, getting in the way of his ability to father to his son. Based in the controversy of case studies where rural inhabitants claim

of experiencing "wind turbine syndrome," *Turbines* emphasizes our fears of new technology and its uncertain consequences on our health.

This study of recent film representations of wind energy offers transnational perspectives that imagine wind's potential towards shaping a future driven by renewable energy. It reveals the attachments, fears, and values that define our relationship to energy, the environment, and our own choices towards sustainability in the face of climate crisis. It is important to envision the future of energy now and address our concerns, as rational or irrational as they may be. Our emotions and values are valid, and from an energy humanist's view, they do play a role in determining our receptivity and behavior towards energy. Expansions upon this research could dive into the representations of nuclear, solar, or any other alternative form of energy in film to learn how our attitudes may differ. As fossil fuels become increasingly difficult and risky to extract, it is crucial that we continue to imagine our reality apart from the petroculture we have created. Through the stories we watch on screen, we can begin to see ourselves in a fresh light, powered by alternative energy.

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