

Aeolian Noises: Reconciling Wind Turbines in the Australian Landscape

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Abstract

Tilting Winds is a practice led research project that investigates aesthetic understandings of Wind Turbines. This project asks: can making music or media from and with wind turbines be a way of repositioning and reconciling these objects in a landscape increasingly marred by climate catastrophe. This paper introduces outcomes of the work which were developed in collaboration with Cementa Inc. in Kandos, a small town in the Central Tablelands of NSW, 40 kilometres from the new Crudine Ridge Wind Farm.

Keywords

Wind turbines, sound, wind, energies, landscape, colonization, industrialization, energy transition, coalture, petroculture, environmental humanities, media art, electricity.

Introduction

The public contention that has surrounded the aeolian sounds of wind turbines deserves creative investigation. Debates range from issues regarding noise abatement, to the health implications of their sonic and electromagnetic presence, to their disruption of habitat and landscape, as well as their scale and kinetic presence. Many of these issues are guided at least in some part by aesthetic and embodied experiences. To reconcile these conflicts, exploration of how these technologies and their energies are sensed and understood may have meaningful implications. It would appear that those best equipped to encourage, facilitate and develop healthy discussion on this topic should be trained in analysing and making aesthetic work.

I began developing a project entitled *Tilting Winds* in 2020 by naively visiting the wind farms nearest to me with my Zoom recorder and video camera attempting to capture their sounds. These are the turbines on the hills overlooking Lake George, 40 kilometers from Canberra and standing 10 kilometers across the lake, they are easy to spot as you drive on the federal highway. Getting close to them required some searching and guess work. On private land, it was necessary to find a turbine installed proximate to a public road to get close. Not being marked on Google Maps, to navigate I had to use my eyes and spot them in the landscape.

When I finally found a wind turbine that I could get close to I got out of the car and was immediately affronted by the wind. The sounds of this turbine were buried in the mix with the full sensory onslaught of the wind. My clothes felt like

a sieve, hair hanging on, squinting for fear of debris getting in my eyes and the rumbling of air blowing in my ear canal as though it were a wind instrument. All of this was so loud I couldn't hear the turbine underneath. These sounds were further articulated by the force of the wind animating trees, grass, bushes, and me, all shaking and flapping together.

Finding what I thought was a protected position and setting up my tripod, camera and zoom recorder with a so-called 'windshield,' I connected my headphones to check the levels and laughed. What I captured was much like the sound in my ear, a low frequency wailing. Looking around me, I watched as the leaves on the trees moshed erratically to what could have been noise music. Straining to hear, I felt nothing but the force of the wind itself, no turbine to speak of. While I had thought these recordings captured the sound of wind, listening back, it occurred to me that the recordings were largely comprised of the objects and plants being animated by wind, the sound of its kinetic force.

It would take some time before I would get close enough to a wind turbine with adequate equipment and environmental conditions to hear and capture the sound the turbines made. This was through a residency in the Central Tablelands of NSW Australia, on the lands of the Wiradjuri people, with the Cementa organization in Kandos and through a partnership we set up with the Crudine Ridge Wind Farm that was being established nearby. This project included a public workshop with locals about their experience of wind turbines, a performance piece and an online work called *Tilting Winds*. In this paper I will discuss my exploration of the sensed and affective experiences of wind turbines and how these relate to what people think about their place in the landscape.

Sublimes

The landscape of the Central Tablelands of NSW, located on the western fall of the Great Dividing Range abound with hills, escarpment and plateaus and appreciate vistas made of agricultural enterprise and natural reserves. Many towns near Crudine Ridge sit with around 1000 residents and places like Sofala make a visitor feel as though they have travelled back in time or onto a set of a western style movie. In these places the colonial landscape of 19th century white settlers appears to have been preserved. Working against these time capsules are major projects of extraction that are obscured underground or by surrounding bush land, except

for the cooling towers and chimney stacks, that of coal mining and coal power generation. Here we have two sublimes working in conflict, that of immeasurable natural beauty where the landscape appears untouched, and that of incalculable technological advancement, where it has been mined, spent and sent out into the atmosphere. Wind turbines in these landscapes articulate a necessary energy transition and yet they act as physical reminders to the local residents of the implications of this transition, a threat to their economies and their way of life.

Industrial transitions have already happened in the town of Kandos, established like a company town for the NSW Cement Lime and Coal Company in the early decades of the last century whose motto was "the town that made the cement that made your town." Their mining and production of this resource came to a close more than a decade ago and many local residents have had to relocate to find work elsewhere, while others have stayed on and continued working in other mines. People implicated in this economy see wind turbines as an immediate threat to their livelihoods, to their safety and security, and to their personal and collective identity. Those that are otherwise occupied also take issue with their appearance in a similar way to our former treasurer Joe Hockey, who famously said they are "utterly offensive... a blight on the landscape." [1] Perhaps there is an ecopathic aesthetic evaluation that has become more transparent since the megafires of 2019-2020, where one may envision scenes such as ruins after a fire, mass fish death and other such catastrophes as generating a different sublime based on the satisfaction of watching the destruction caused by the extractive projects of post capitalism and colonisation. [2]

Naturally, concern about substantial changes in the everyday environment have been raised by those living in proximity to wind farms. Reporting on the potential health risks brought on by the energetic phenomena of wind turbines, sonic and electromagnetic, their impacts on the environment and the body were what drew me to investigate this topic in the first place. The anxiety towards wind turbines and the abundance of physical and mental ailments that have been associated with them has been well reported in the news, similar to the public reaction to a prior energy transition, from gas to electricity, at the turn of the last century. [4] Wind turbine syndrome is a focus for public health researchers Simon Chapman and Fiona Crichton who position the syndrome as a "communicated disease," one that "can be spread by people talking, reading, and writing about it." [3] Accordingly, stigma has been generated about their presence, their sounds and the other energies they produce which influence the way people think about them as aesthetic objects.

I have talked to people who describe wind turbines in the landscape as being graceful objects and see them as symbols of hope. People both implicated and unaffected by this energy transition look at wind turbines as physical markers of progress; a representation of our transition away from fossil

fuels, contributing positive alternatives to climate catastrophe. It appears that the connections people make with the futures these technological objects symbolize have a large bearing on how a person perceives them as an aesthetic object.

Aeolian Music on Crudine Ridge

In Douglas Kahn's words, aeolian music is "as old as the myth of Aeolus and the Aeolian Islands and everywhere else that sentient beings have heard the sounds of wind among the trees, plants, and rock formations." [5] Kahn points out that aeolian music is historically a debated category based largely on the fact that it isn't made by humans, those like 19th century Austrian music critic Eduard Hanslick who believed that the sounds of wind are only noise, while composer Carl Engel suggested that it is consequently an uncanny music. [6] At a wind farm, in the right position, I found that you can hear both the noises and uncanny music, created only from the wind without human intervention and the music made by the giant instruments we call wind turbines.



Figure 1. Standing at the base of a wind turbine at Crudine Ridge Wind Farm.

I had the opportunity to get so close as to touch a wind turbine in the summer of 2021 when I was invited by Crudine Ridge Wind Farm just prior to its opening. They had almost completed constructing the last of the 37 wind turbines. The

engineers explained to me the process of how they locate sites to harvest the energy of the wind, making use of topographical maps, residential maps, overlaid with maps of wind formations. They had indeed selected a nexus point for higher altitude and high wind activity, untouched landscape or low residential occupation. This time I did not have to search for a road near a turbine, I was taken straight to the base of one, given a helmet and set loose. Their scale cannot be understated and their movement ensures this as they do not sit as passive structures but are instead animated by massive oscillating blades. Each tower at Crudine Ridge is about 91 meters high and the diameter of the rotor and blades stretched out are 137 meters making the structure reach 160 meters when a blade is pointing directly up.

Standing so close that I could touch the tower, I finally heard the sounds of wind turbines without straining to filter out the sounds of the wind. The sounds were made up of several elements:

1. The regular soft sweeping sound of the wind against the turbine blades
2. The sound of the generator and associated mechanisms like the background hum of a refrigerator or air-conditioning system
3. Intermittent deep, low frequency hums from larger gusts of wind heard right at the base of the turbine.

The humming sounded almost like a dissonant organ chord in a scary movie and when I pointed it out with exclamation, desperate to know its source, my guides, who were already accustomed to this sound explained that it was generated from the wind travelling through turbine's hollow towers.

Conclusion

Working to understand public perceptions of wind turbines through studying public archives, videos on YouTube and TikTok allowed me to compare and contrast and to situate my own archive with wider public discourse. Videos on social media showed turbines of all sizes and shapes, not just those on a horizontal axis, videos about how they work or how to build your own along with "Funniest Wind Turbine

Fails" and other turbine disasters, someone base jumping off a blade and "the truth about wind turbines – how bad are they?" [7] Finding videos that observe wind turbines in their landscape brought me to produce a multimedia presentation that mixed the video and sound recordings of my own with videos collected from these archives. These were presented with writing read as a voice over in the style of a performance lecture or live video essay. The work was presented for the Kandos festival, Cementa in 2022 on the night of the Australian Federal Election, one that resulted in a majority vote for The Nationals party member Andrew Gee in the Calare electorate.

By studying the contention relating to wind turbines and energy transitions much of the discussion relates to the sensed experiences of their presence, particularly visual and sonic. *Tilting Winds* proposes that listening to wind turbines with their environment can be a way of coming to terms with the aesthetic sonic impacts of their disturbance on a landscape and that similarly discussing how they appear in the landscape provides a space to reckon with the changes they are making and the transitions still to come. Future possibilities to continue working with this format of public workshop and presentation with towns that are impacted by wind farms in development are being considered and consulted about and the collection, archiving and presentation of media that observes their presence continues.

Acknowledgements

In this work it is important to recognize the privileged position I have as a white settler practically unaffected by the catastrophic disruption of colonisation, from a major city whose landscape is not threatened by the interference of large scale industry, one that is powered entirely by renewables. I pay my respects to the traditional owners of the lands where I have worked and lived, those of Ngunnawal and Ngambri and Wiradjuri. This always was and always will be Aboriginal land.

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Figure 2. Performance of *Tilting Winds* at Cementa 22, 21st of May, 2022, Photograph by Coolaid Crowley.

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