Seminar 14: Energy Transitions in Long Modernity
SAA Portland OR

Seminar Leaders: Todd Borlik and Tiffany Jo Werth

Seminar members at large and performing as

Super Conductor:

Joe Campana, William Shakespeare Professor of English, Rice University
jac4@rice.edu

Node Responders:

Jemima Matthews, Lecturer, King's College, London jemima.matthews@kcl.ac.uk
Vin Nardizzi, Associate Professor, University of British Columbia nardizzi@mail.ubc.ca

Abstracts for Extractive Colonialism:

Kelly Duquette, PhD (she/her/hers) Marion L. Brittain Postdoctoral Fellow / School of Literature, Media, and Communication Georgia Institute of Technology kduquette3@gatech.edu

"Asphaltis Lake: Colonial Mining in Marlowe's *Tamburlaine II*"

This paper traces a long history of mining for pitch and asphalt (bitumen) from the 16th century to British colonization of Trinidad in the 19th century. Raleigh & Whiddon's quest for El Dorado along the Orinoco River in Trinidad, as detailed in *The Discovery of Guiana*, documents Raleigh's recognition of tar/asphalt as a profitable resource. In the 19th century, British colonizers in Trinidad capitalized on asphalt extraction/exploitation. In the 1840s, for example, physician and geologist Abraham Gesner first obtained kerosene from a sample gathered from Pitch Lake bitumen. Later, in 1887, the American businessman and founder of Barber Asphalt Paving Company, Amzi Barber, secured a forty-two-year monopoly concession from the British Government on Trinidad's Pitch Lake. In *Tamburlaine II*, the title character refers to Asphaltis Lake as "liquid gold," suggesting early modern interest in crude materials/fossil fuels. If the Anthropocene positions humanity as a single, geological force, then Tamburlaine simultaneously personifies the anthropocentric desire to mine and consume earth's resources and represents an anthropocentric indifference towards the consequences of this desire. But, this formulation of the Anthropocene (and Tamburlaine's representation of it) complicates the underlying principles of climate justice, which begins with the idea that the causes of global warming are not perpetrated equally by humanity, nor are the impacts of a warming climate experienced equitably among people. Thus, this paper also considers the legacy of asphalt colonialism in the context of climate change from the perspective of Indigenous Taíno peoples in 16th century and modern Trinidad today.

David Goldstein, Associate Professor, York University dgolds@yorku.ca

As our resource-extractive culture struggles to switch from fossil fuels to more sustainable forms of energy, we tend to forget that the source of energy most crucial to human survival for much of its history was human labor itself. The seventeenth century thus witnessed the world's most

consequential energy transition before the advent of fossil fuels—the transition from largely local economies of work to a globalized system of enslaved African labor. Shakespeare's *The Tempest* and Richard Ligon's *A True and Exact History of the Island of Barbados* (1657) both note and theorize this energy transition in complex ways. In *The Tempest*, three kinds of labor, drawing from three different ideological approaches to the question of energy, compete and overlap: magic, forced manual labor, and labor freely proffered by and for one's own kind. These three sorts of work are negotiated in various ways, including through the new world paradigm of Montaigne's *The Cannibals*, from which a passage concerning Indigenous labor is famously quoted by Gonzalo. A half-century later, the author and painter Ligon again places various kinds of labor in active relationship, this time charging the negotiation through a frank discussion of enslaved African labor only gestured toward in Shakespeare. Ultimately both these authors ask the question of what energy actually is and what it's there for, opening a discussion about the deep role of artistic and aesthetic labor—the most human of all energies—in the shaping of society.

Rob Wakeman, Associate Professor, Mount Saint Mary College
rob.wakeman@msmc.edu

"Cooking Fuel on Ararat"

The end of the world, or its starting over, will be punctuated with a barbecue. Upon landing on Ararat, Noah celebrates landfall by taking some "of every clean beast, and of every clean fowl, and offered burnt offerings on the altar" (Genesis 8:20). The sacrifice wins God's approval and inaugurates meat production for human consumption. Noah's covenant with God marks two forms of "energy transitions": 1) caloric intake shifts from vegetable to animal, and 2) the cooking of meat requires clearcutting the mountaintop's wood to supply the hearth. In the York *Flood* play, Noah proclaims, "Beestes and foules sall for the be bredde, / And so a worlde be-gynne to bee. / Nowe travaylle salle ye taste / To wynne you brede & wyne, / For alle *th*is worlde is waste; / Thes beestes must be vnbraste" (9.315-320). Like the destruction of early modern forests for the raising of sheep and cattle, no less than the destruction of rainforests today, for the world to "begin to be," Noah and his family denude the land to fuel their kitchens.
Taking late medieval drama as my starting point, my contribution to the seminar will explore the relationship between early modern comprehensions of the Noachian covenant and increases in meat consumption from the sixteenth to the seventeenth century in the work of Peter Martyr among others. For example, Anthony Marten's translation of Peter Martyr posits a surprising explanation for the licensing of meat: God "furnisheth our kitchin with flesh … because the earth perhaps being corrupted by the water, brought not foorth so wholesome fruits as it did before." Drawing on recent work on the plantationocene, I intend to explore the relationship between early modern colonialism, and environmental degradation. As we think about what we can learn by comparing early and modern energy transitions, we would do well to bear in mind recent debates over the energy inputs required for lab-grown meats. Looking forward, what will be the energy costs of the new diets needed to feed a hungry planet?

Abstracts for Dirty Energy Regimes

Bernadette Myers, Assistant Professor, New York University bernadette.myers@nyu.edu

"Unknown Power": *Macbeth* and England's Transition from Wood to Coal

This paper re-reads the struggle for "power" in *Macbeth* as an exploration of England's messy, inconsistent transition from wood to coal-power over the course of the sixteenth and seventeenth centuries. Although coal is not mentioned explicitly in this play, I build on the work of Jonathan Gil Harris to situate *Macbeth*'s many smelly special effects within a new "phenomenological receptive horizon": the rise of domestic sea coal fires burning in London homes. Comparing the sulfurous smell of gunpowder to complaints about London's smoky air, this essay urbanizes the "fog and filthy air" of *Macbeth*, linking play's representation of the supernatural to the city's rise in coal consumption. I then contrast the play's coal-powered special effects with the arrival of Birnam woods at the end of the play, the hewn boughs of which are metonymically aligned with "English power" (5.2.1). Rather than reading this moment as a nostalgic plea for an older, "cleaner" energy source, or an idyllic re-afforestation of a landscape devastated by war, I'm interested in exploring how both special effects (the play's fireworks *and* the Birnam wood illusion) transform the natural world from an imaginative construct of sublime mystery to a measured stockpile of natural resources, easily tapped for quantifiable energy.

Jeff Theis, Professor, Salem State University jtheis@salemstate.edu

"'Poor Tom's a-cold': Warmth, Comfort, and Housing Technology"

Perhaps there is a causal relationship, or perhaps it is mere irony, but the cold of the Little Ice Age gave impetus to heating technologies (manifest in the proliferation of chimneys) that, over time, would burn carbon-based fuels which led to "global warming" and Climate Change. The warming got out of hand, to say the least, and now warming societies are going in the opposite direction and needing to develop cooling for their homes.
Pincreased interest in comfort as a concept. I plan to examine comfort as it is linked to and perhaps derived from heating technologies for the home. I will try to bring Shakespeare into all of this, but he will be situated within early modern England's architectural responses to climate change and the forms of energy they utilize. The approach will be eclectic with some architectural theory and historians along with environmental scientists. For those who have been inflicted with my recent explorations, I will also continue engaging niche construction theory and situating human beings among other creatures considered "ecosystem engineers."

My intention is not to trace the problem but to consider this early modern moment as a transitionary moment in which heating technologies and concepts of comfort might also help us reconsider our own sense of what comfort is and can be and how that influences how we engage the natural resources around us.

Rob N. Watson, Distinguished Professor, University of California, Los Angeles
rnwatson@humnet.ucla.edu

Like many Early Modern tragedies and histories, Shakespeare's *Macbeth* is certainly focused on power: how it is acquired, how it should be used, and what costs it may exact in the future. While exploring the questions about political power, the play offers some remarkably prescient

suggestions about how another category of power— the derivation of energy — functions in parallel ways.

It will seem an awfully pat and convenient claim for a 21st century ecocritic to make, and close reading may seem awfully 20th century way of making it, but I believe Shakespeare persistently associates the villainous "butcher" Macbeth (trying to "enkindle" his way into the crown) with fire and blood-thirst as well as with clouds, sundown, darkness, and autumn. The Weird Sisters who provoke his short-sighted hunger for power are similarly associated with fuel-burning (and the "filthy air" Jacobeans knew it produced), blood soup, and a corruption of the sustainable renewal of natural order.

Their virtuous foes are associated instead with the sun and the planting and growing of seeds. The competing ways of acquiring and employing power politically thus correspond with the competing ways of acquiring and consuming energy in 21st century environmentalist discourse. A brief candle is no healthy substitute for sunlight. The collision between the titular villain's egoism and the world's entropy can only end in rage and despair. He has bet on the wrong "golden round" to resist his mortality.

Shakespeare culminates the lesson with a parable of deforestation and reforestation, with special relevance to Scotland in the time of the historical Macbeth and at the time Shakespeare was writing this play.

Bio- and electro-Energy Reserves

Benjamin Miele, Associate Professor, University of the Incarnate Word miele@uiwtx.edu

"Political Ordure: Compost and Gunpowder in Early Modern England"

This paper will explore the social, political, and ecological significance of dung, both of human and non-human animals. Rich in nitrogen, hydrogen, and carbon, ordure was a main component of saltpeter in early modern England, and in turn, saltpeter was a vital ingredient in gunpowder (as well as agriculture and other military applications). Writes David Cressy, saltpeter was "comparable in strategic importance to modern oil or uranium." English monarchs dedicated vast resources to making it or securing land that had accumulated saltpeter deposits. The most common indigenous source of saltpeter was human wastes (feces and urine combined), and the suburbs of major urban centers were ransacked for this human-made energy. Before English colonization of the Indian subcontinent provided saltpeter without human mediation, ordure was rather important for maintaining English sovereignty. However, the extractive practice of saltpeter mining was harshly criticized, as in Shakespeare's *2 Henry IV*, as well as *King Lear* and *Antony and Cleopatra*. Shakespeare, though, also leaves space for an exploration of the dialectics of literal and metaphorical human energy, as well as the spiritual and social significance of compost, which may be relevant to the field of Energy Humanities.

Steve Mentz, Professor, St. John's University mentzs@stjohns.edu

“Oceans and Energies, or *The Tempest* and the Electric Nemesis”

If any early modern play can enable a glimpse into the symbolic structures of an energy transition, it would be *The Tempest*. With its stormy spirit of electricity, its location on the island-edge of Europe, and its speculations about the nature of power in many senses, Shakespeare’s island oddly resembles the portrait of the Orkney Islands in Laura Watts’s brilliant book *Energy at the End of the World* (2018). For Watts, the Orkneys, with their superabundance of marine and wind power, represent the possible futures of the energy transition. Her speculative figure of Electric Nemesis, which she constructs as a sister to Victor Frankenstein’s creation and which follows her around her tour of the Orkneys, represents a critical and creative approach to electrification. This SAA paper will read Shakespeare’s island play through a deep entanglement with Watts’s Orkneys. By cross-wiring these two portraits of oceanic and electric energies, I aim to show how the logic of *The Tempest*, with its tripartite structure of lightning storm, political conspiracies, and utopian visions, broadly parallels Watts’s vision of the electric future. Watt’s Nemesis, like Shakespeare’s Ariel and Caliban, represents nonhuman forces that live at the edge and fuel possible futures. The forces that Watts unifies in Electric Nemesis Shakespeare divides into the spirit of the storm and the body of earth. Shakespeare’s structural complexity suggests ways that Watts’s non-utopian vision of the electric future might require further complication. But reading *The Tempest*’s dramatizations of power through Watts’s structure for thinking about electrification may also provide new ways to conceptualize the post-fossil fuel world into which we are transitioning.

Julian Yates, H. Fletcher Brown Professor of English, University of Delaware jyates@udel.edu

“Like Clockwork? Spit Boys, Dogs, and the Bioenergetics of the Flesh in early modern England”

This speculative paper investigates child-labor and dog-labor in the early modern kitchen to focus on the way in which animal labor (human and otherwise) overlapped with; was reinforced by; replaced by; and otherwise involved with the advent clockwork machines of a distinctly ordinary variety (wheels that took the place of a human hand turning the joint of meat as it roasts as opposed to the superlative automata of medieval and early modern court fantasias). Motive force for spit-turning might be provided by a human hand (usually a child’s) or by a now extinct breed of dog who ran, as *The Comedy of Errors*’ Dromio of Syracuse puts it, “in the wheel.” So clockwork for all its apparently self-sealed automatic sufficiency stands patently as an interface with human bodies whose motive energy is only notionally hidden or invisible. Dromio in *The Comedy of Errors* provides the jumping off point in the Shakespearean canon for a story which travels forward –by way of Philadelphia--to the colonial plantation, a story that seeks to keep the human body central to the thinking of energetics and energy sources.