Shakespeare Association of America Conference 2024
Seminar: The Sensorium of Early Modern Science
Paper Abstracts

A Taste of Touch: The Perceptive Matter of Francis Bacon's Sensory Prosthetics
Pavneet Aulakh

> one part may perceive the other, and yet be ignorant
> whether the other does the like: For example, a man
> joins both his hands together; they may have
> perception of each other, and yet be ignorant of
> each other's perception
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> --Margaret Cavendish, *Observations Upon Experimental Philosophy*[1]

As the pre-modern definitions of taste ("a trial" or "test" whether by "touch" or other means, or "[t]o have experience or knowledge of") might themselves suggest, the early seventeenth-century experimental philosophy promoted by Bacon and developed by his successors grounded itself in the senses. Such is the centrality of sensory perception to his project for the advancement of learning that Bacon, acknowledging the Aristotelian dictum that all knowledge begins in the senses, nonetheless declares himself their true "high priest … and learned interpreter": while Aristotle and his followers "claim to watch over and cherish the sense," Bacon asserts that he does "so in fact." Indeed, George Herbert praised him for being not only an "amazing judge of reason," but also of "sense."

To "judge" of "sense" entails, of course, recognizing its constraints as well as its potentials. Distinguishing between old and new empiricisms, Charles Wolfe and Ofer Gal observe that the latter involved "a new attention to the senses and their function from a physiological, practical and epistemological point of view";[2] and it is precisely this awareness that informs Bacon's intention to correct for our collective sensory impairment by triangulating the relationship between the senses, a designed experiment, and an object of study so that "the sense judges only the experiment whereas the experiment judges the thing."[3]

Focusing on his call for a new empiricism founded on a dual recognition of the necessity of the senses to the advancement of knowledge and simultaneous sensitivity to their limitations, this paper seeks to unpack the mechanics that define Bacon's experiments. To that end, it foregrounds his attribution of "perception" to "all bodies," whether or not they have "sense," in order to: demonstrate (with some help from Margaret Cavendish) a vitalist materialism undergirding his experimental methodology; and rethink the relationship the latter generates

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[1] Margaret Cavendish, *Observations Upon Experimental Philosophy* (*Cambridge Texts in the History of Philosophy*), ed. Eileen O'Neill (Cambridge: Cambridge University Press, 2001), 143.
[2] Charles T. Wolfe and Ofer Gal, "Embodied Empiricism," in *The Body as Object and Instrument of Knowledge: Embodied Empiricism in Early Modern Science* (London: Springer, 2010), 3.
[3] Francis Bacon, *The Instauratio Magna: Part II Novum Organum* (*The Oxford Francis Bacon*), ed. Graham Rees (Oxford: Oxford University Press, 2004), 35.

between scientific observer and observed phenomenon.[4] Instead of a self-distancing objectivity separating an experimenter from an object of inquiry, this essay argues that Bacon's approach to experimentation stages, indeed requires, the touching of bodies and a mingling of subject and object, observer and observed.

"Imaginarie in manner; reall in matter": Disembodied Experimentation in Rachel Speght's "The Dreame"
Courtney Cahalan

In seventeenth-century England, Francis Bacon's call for inductive and experimental methodologies was complicated by a growing distrust of the senses, especially that of vision. If the senses were flawed and could be manipulated, then how could one fully trust the observations and conclusions drawn from experiments? Moreover, women intellectuals, who already did not receive the same respect for their scientific ideas nor the same material opportunities as their male counterparts, now suffered a double disadvantage with the shift toward empirical practice because their bodies were viewed as especially disorderly, flawed, and therefore unreliable. This paper argues that early modern women drew upon the figure of the dream as a tool for exploring this epistemological challenge. Early moderns figured the dream as an extra-possible experimental space – one that is experienced simultaneously in embodied and disembodied ways. Reading Rachel Speght's "The Dreame" alongside the medieval dream theories of Pascalis Romanus and Ailred of Rievaulx, I argue that the somatization of dream theory offers Speght an avenue for retheorizing the role of the senses in the practices of early science. The dreamer's experience as paradoxically embodied and disembodied indicates how the device of the dream can enable the mind and soul to operate free from the body while highlighting the difficulty of leaving behind language of embodiment altogether. Ultimately figuring the soul as the window through which knowledge can "speculate" – contemplate and examine – her object of study, Speght formulates a hybrid method for scientific inquiry and knowledge formation. Anticipating the exclusion of women from institutionalized channels of scientific pursuits in the mid-seventeenth century, Speght finally offers future women intellectuals an alternative experimental model based on the soul's ability to experiment in the dream space.

'A Pretty Regiment for the Pestilence': Plague and the Senses in Early Modern Culture
Joan Fitzpatrick

My paper will explore the role of the senses in the context of three sixteenth-century dietaries: Thomas Elyot's *The Castle of Health* (1541), Andrew Boorde's *Compendious Regiment* (1547), and William Bullein's 'The Government of Health' (558). Dietaries, also known as regimens, advised readers how to achieve and maintain good health in accordance with a number of factors

[4] Bacon, Sylva Sylvarum, in *The Works of Francis Bacon* (Cambridge Library Collection), ed. James Spedding, Robert Leslie Ellis, Douglas Denon Heath, vol. 2 (Cambridge: Cambridge University Press, 2011), 602.

including humoral type, age, and occupation. Although these books provide an important insight into early modern attitudes to physical and mental health, they remain relatively unexplored by critics.

Each of the dietaries above include within them a diet to be used in time of pestilence; Elyot and Bullein include this at the conclusion of their books and Boorde in a chapter around half way through his book. I previously engaged with these dietaries for my 2007 monograph *Food in Shakespeare: Early Modern Dietaries and the Plays* (Ashgate) and I edited them (*Three Sixteenth-Century Dietaries*) for the Revels Companion Library Series (Manchester University Press, 2017). Yet for neither of these projects was my focus on disease, specifically the plague, and the five senses with which these books concern themselves when it comes to warding off pestilence.

Returning to these dietaries in the aftermath of the Covid-19 pandemic, my paper will consider how far they illuminate Shakespeare's engagement with the senses and plague in his plays and how far our collective experience of a pandemic and its effect upon our senses might allow us to read the dietaries and Shakespeare's plays with a fresh eye.

'Hunger will teach you': Hunger Pain in Philip Massinger's *The Picture*
Jennifer Forsyth

With the recent increased attention to the early modern sensorium, the majority of the attention has been paid to the five external senses as portals to the inner body and the mind. Yet not all sensation derives from the outer body: hunger, headaches, cramps, love pangs, and death agonies, for instance, are forms of pain that do not originate in the skin. Early modern medical writers such as Helkiah Crooke, in his *Mikrokosmographia*, and Thomas Elyot, in *The Castell of Health*, comment upon internal pains such as colic or kidney stones, describing the networks of nerves carrying pain and recommending specific courses of physic; disorders in the digestive systems are juxtaposed with those of reproductive physiology, implicitly reinforcing gendered distinctions of internal woes. At the same time, religious associations linking the origin of human suffering with Eve's disobedience, God's curse, and Adam and Eve's eviction from the Garden of Eden contribute to differentiating attitudes toward pain based on gender. Informed by contemporary medical beliefs, I build upon the seminal works of Michael Schoenfeldt, Gail Kern Paster, and David Hillman to explore the gendered and genre-related associations with physical hunger pains in Philip Massinger's *The Picture*.

A Quiet Buzz: Sound Reasoning in Early Modern Poetics
Ashley Howard

The sounds of insects are often lost beneath the general hum of human life, but they are important voices in "nature's ensemble"—a term I use to describe the collective sounds of an ecology from the very loud to the very quiet. This essay explores how early modern poetry

represents insect sounds through the onomatopoeic "buzz." It first considers how onomatopoeia signals a collaboration between insect articulator and human listener, then examines buzzing in two case studies: John Heywood's political allegory *The Spider and the Fly* (1556) and a poem at the end of Edmund Spenser's sonnet sequence *Amoretti* (1595). In Heywood, the central fly calls itself Buzz, a name that demonstrates the self-naming capacities of insects and the delightful ambiguity of insect sounds (where even a single buzz invites multiple coexisting interpretations). In Spenser, an exchange between Cupid and a little bee incorporates buzzing into the very structure and rhyme of the poem. Both texts recalibrate the human sensorium toward insect scales. The buzz guides audiences toward not-quite-human ways of perceiving nature's ensemble, calling attention to smaller sounds and beings. Although vision often dominates discussions of insects from their visual magnification in Robert Hooke's *Micrographia* (1665) to their collection as specimens in curiosity cabinets and still life paintings (Neri 2011), insects ring with sonic liveness. By attending to these sounds, this essay works toward an entomological epistemology—a way of perceiving nature through insect scales of size and volume.

Racializing and Gendering Early Modern Botanical Gardens in Hester Pulter's Poetry
Tamara Mahadin

This seminar paper focuses on the multifaceted intersections of botanical classification, race, and gender in the poetical works of Hester Pulter. Despite the rediscovery of Pulter's manuscript in the late 20th century—a collection of 130 poems and emblems titled *Poems breathed forth by the Noble Hadrassas*, along with an unfinished romantic prose piece called *The Unfortunate Florinda*—her scientific contributions remain relatively understudied. By considering poems like "The Garden, or The Contention of Flower," I explore how her poetry engage with the sensorium, examining how she employs sensory imagery and experiences to convey her ideas about gender, race, and botanical knowledge. I highlight how Pulter's knowledge of botany is broad and encyclopedic, drawing from not just discourses of botany but also from existing works of human anatomy, theology, and geography, allowing me to show how human and racial differences are figured in Pulter's botanical imagery. I argue that a poem like "Contention" does more than just illustrate Pulter's rhetoric and poetic choices: the "contention" between the personified flowers is a kind of physiognomic mechanism that allows Pulter to demonstrate that botanical knowledge is gendered and racialized. Although flowers have long been considered a typical motif for poetry by women, Pulter's use of classificatory botany allows her to subvert conventional ways of using poetic forms such as the blazon (a form associated with misogyny) reclaiming them for women's use.

Sonic Temporalities in *The Roaring Girl*
Dorothy Todd

This paper brings together early modern sounds studies and a focus on the competing temporalities in the urban center of London to argue that Moll Cutpurse in Thomas Dekker and Thomas Middleton's *The Roaring Girl* challenges the play's primary temporality, which is

defined by trade, personal wealth, material markers of time, and a desire to control and discipline bodies. I demonstrate that it is through Moll's associations with sound—her roaring, her cants, and her musical performances—that Moll destabilizes this dominant temporality and instead posits an understanding of time, sonic in nature, that is defined instead by potentiality, multiplicity, and a failure to regulate bodies. Building on early modern understandings of the sense of hearing, I demonstrate the potency of Moll's sounds and in turn show how Moll's quips, cants, and songs in turn connect her to the most dominant aural marker of time, the clock bell. Like the multiple clock bells ringing (often minutes apart) through the London soundscape to mark each hour, Moll cannot help but be heard by the play's other characters. Even when they are not actively listening for her, her roaring penetrates their ears. Clock bells occupied a unique position among the temporal markers of early modern London because they revealed the inaccuracies of other time-telling and time- marking devices. Similarly, Moll, through her sonic presence, reveals the impossibility of time to successfully discipline, censure, and control the bodies of men and women.

The Most Deceptive Colour of the 17th Century: The Whiteness of the Devil in *The Witch of Edmonton* and Its New Semantics

Natalia Zelezinskaya

The figure of the devil was popular in both medieval and Early Modern drama, but its representation changed greatly as the devil embodied new ideas about the nature of evil in 1621, when *The Witch of Edmonton* was staged. The play demonstrates no need in devilish wiles because people are eager to sell their souls for revenge, avarice, lust, hatred etc. The philosophical thought of this period exhibits the same diversity that can be observed by comparing Catholic theological thought, the views of Luther and Calvin, the treatises of Francis Bacon, and even the writings of Thomas Hobbes (who began to publish his works in the same year). The early seventeenth century cannot be called homogeneous in its ideas, but it is extremely sensitive to the gap between the outward display of virtue and the inner truth of vice. The authors demonstrate the ambiguity of evil through a system of motifs and images.

Deception becomes one of its main motifs, being accompanied by disguise and unmasking, conspiracy and equivocation. The visual embodiment of these complex theological, moral, and social ideas and motifs can be found in the colour of the devil, who changes his colour from black to white. This concept is first encountered in *The White Devil*, but in John Webster's play it remains a metaphor, whereas in *The Witch of Edmonton* the true nature of the transfigured devil is more literal and complex as it is linked to notions of truth and illusion, deception of the senses (vision), deceptive optics, the changing nature of white colour (towards exclusion from the chromatic world), and its changing symbolism. Their foundations can be found in Francis Bacon's *Advancement of Learning* (1605) and essays, as well as in the innovations of Dutch painting.