Intuition and Emotion in Early Modern England: *Macbeth* and the Sense of Disgust

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Introduction

Imagine the following scenario: on a summer afternoon in 1606, a London artisan named Thomas Harison leaves his home to attend a play. He walks to Southwark on the south bank of the Thames and takes in the sights. To his left is a round building, a three-story high arena, from which he can hear the barking of dozens of large English dogs. The noise is overwhelming, with crowds filtering into the building to watch the dogs fight a succession of bears.¹

Harison pushes his way through the crowd to catch a glimpse of Southwark’s row of theaters. He has several plays to choose from today, but he is intent on seeing one in particular: a new tragedy called *Macbeth*, written by William Shakespeare. Shakespeare had been the city’s preeminent playwright for the better part of a decade before *Macbeth* was produced, and the “upstart Crow” of Robert Greene’s formulation now commanded devoted fans. A new play from Shakespeare was already a cause for excitement, and certainly worth the penny admission.

Harison pays at the main entrance and enters the ramshackle theater. Despite the day’s fair weather, the atmosphere inside the Globe is stifling. The yard is nearly full, a stinking cluster of soiled garments and unwashed bodies. It would take considerable talent and skill to distract the audience from their dismal surroundings.

¹ I have adapted parts of this scene from Lupold von Wedel’s 1584 travelogue, *A Journey Through England and Scotland* and the journal entries of the Swiss tourist Thomas Platter, among others.
The Historical Record

The experience described above was shared by thousands of Londoners daily as they crowded into playhouses. Yet besides the material facts of their attendance—the business of admission prices, theatrical capacities, and principle actors—little is known about the lived experience of theatergoing in early modern England. The historical record is intractably silent: if early modern audiences ever commented on the thematic, aesthetics, and social issues raised by plays, their comments were rarely put into print. We are left with a historical record of theatergoing that contains little more than lists of notable attendees and vaguely remembered plots. None of these accounts address how audiences perceived, reflected upon, and judged plays in early modern England.

The following thesis is an attempt to provide a partial answer to these questions. Recent efforts to reconstruct the history of early modern interior experience have relied almost exclusively on early modern accounts of mental life, drawn from sources as diverse as anatomy texts, plague pamphlets, and theatrical rolls. Yet I believe that these researchers have overlooked a valuable source of data in their reconstructive efforts: contemporary psychological research. Empirical studies in the cognitive sciences over the past two decades offer cultural historians an invaluable perspective on the personal and social lives of individuals from every historical moment. The consensus among psychological researchers that many human emotional and moral faculties are innate presents a challenge to historical accounts of cultural phenomena, but it also represents a powerful tool for the study of historical experiences. If we are able to determine that the
interior lives of early modern subjects were similar to our own in certain fundamental ways, suddenly the interpretation of material history is not the only device for understanding the early modern interior experience. Instead, we will be free to read across history the proclivities of our shared human nature.

The belief that the mental life of early modern England was shaped exclusively by its society’s prevailing discourses has been unquestioned in the academy for nearly half a century. I hope to offer a challenge to this view of how early modern subjects experienced the world on a personal level, while proposing new ways to reconstruct how they might have perceived the experience of playgoing. The reliance by scholars on early modern models of selfhood, humoral theory, and physiology have exaggerated the influence that culture plays in human emotional and moral life. While still a popular view within the humanities, I will attempt to show that this constructivist model has been discredited by those who study the human mind, and how their work on the innate aspects of human cognition offer a richer perspective on the interior life of early modern subjects. In doing so, I will try to look through an early modern subject defined entirely by the provinces of humoral theory to rediscover an emotional past more like our own.

The Limits of the Historical

Any inquiry into the history of emotions should depend equally on both the present and the past: the present for its insight into persistent aspects of human mental subjectivity and the past for its description of social and cultural influences on human behavior. In the chapters that follow, I will provide an overview of the prevailing understanding of
early modern subjectivity, an “emotional universe” dependent on reconstructing emotional lives through the parameters of humoralism. I will show that this view, expressed most completely by the field of historical phenomenology, is insufficient to undertake the project of representing the early modern emotional experience. My primary objection will be that historical phenomenology relies entirely on a constructivist picture of interior experience—that emotional and moral beliefs are developed entirely by means of culture, a model deeply discredited by the previous several decades of psychological research. In opposition to this, I will present empirical studies drawn from recent research that strongly suggest that emotional and moral experiences are both universal and innate, indicating that the early modern subject experienced an interior life somewhat independent of their surrounding cultural discourse. I will then present the difficulties of over-reliance on early modern descriptions of interiority by historians, since recent psychological models of emotion have demonstrated the centrality of intuition in emotional experience and moral reasoning, not post hoc descriptions. These primary accounts are exogenous to the experiences themselves, and serve only to approximate the individual’s beliefs and biases, not necessarily their immediate emotional and moral reaction. I will support this contention with psychological research that indicates that moral judgments are made intuitively with strong emotional involvement, and then justified during the slow process of moral reasoning. One of the more groundbreaking features of recent psychological research is the empirical demonstration that our moral cognition is deeply tied to intuitive and emotional processes. Reason, once the sole actor in philosophical accounts of moral thinking, is now relegated to the role of providing post hoc justifications for decisions made long before an individual enters the deliberative process. Ironi-
cally, the study of early modern interiority has only paid attention to the reasoning in moral and emotional experience, not to the intuition.

In the second chapter, I will try to compensate for these insufficiencies by suggesting an alternative method of reconstructing early modern interiority. For this, I will use the experience of viewing Shakespeare’s *Macbeth* as an example of how empirical research into the emotions and moral judgment can inform our understanding of how the play was experienced by its audience. I will look in particular at the emotion of disgust and how invocations of disgust could influence the experience of its theatrical performance both as a universal experience and one still deeply rooted in early modern beliefs about purity and sacredness.
Chapter 1. Emotional Universes: Reconstructing Early Modern Interiority

The anthropologist Clifford Geertz described man “as an animal suspended in webs of significance he himself has spun.” And he takes culture “to be those webs.”¹ This belief—that individuals are shaped entirely by culture—is the prevailing assumption in almost all recent studies of early modern England. The following chapter will interrogate this attitude as it relates to understanding the experience of early modern subjects, looking specifically at the field of historical phenomenology. I will address deficiencies in its treatment of the early modern emotional experience and will describe recent empirical research into the innate and intuitive nature of emotion and moral judgment. This research is capable of accounting for unaddressed issues in the interior lives of early modern subjects, and I will conclude by suggesting that it be introduced into all future accounts of early modern emotional experience.

Historical Phenomenology and the Social Construction of Emotion

Within the past decade, cultural historians have made an effort to recapture the lived experience of early modern England. Focused around the interior lives of early modern subjects, the field of historical phenomenology seeks to understand how emotion, cogni-

¹ Geertz, *Thick Description*, 5.
tion, sensation, and other aspects of interiority were experienced in the past. Fundamental to these experiences were the historically contingent forces that shaped them—enculturated beliefs that formed the core of the early modern subject's "self-experience." The field—inigated by scholars like Bruce R. Smith, Michael Schoenfeldt, and Gail Kern Paster—began with the goal of transcending previous modes of historical scholarship that depended entirely on textual and material history. Smith and his colleagues instead argue for an "embodied" history, one that looks to reconstruct the early modern experience primary through physical experience.²

Aiming at nothing less than recovering how we once inhabited the world, historical phenomenologists use extant texts that describe theories of affect, emotion, and the body to reconstruct the interior experiences of early modern subjects. Their claim is that early modern literature did not simply record the history of material existence, but influenced the interior experiences of those in its culture purview. These texts "ask the reader to take words, not as symbols, signs with only an arbitrary relation to the thing toward which they point, but as indexes, signs with a natural or metonymic connection with somatic experience."³ In other words, early modern texts both shaped and represented the interior lives of their writers and audience.

The *locus classicus* of early modern historical phenomenology is the medical tradition of humoral physiology. At the turn of the sixteenth century, anatomists, doctors, physicians, and other writers advocated an understanding of the body that derived first from Hippocratic writers, but was popularized by the second-century Roman physician

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² Smith, 276.
³ Smith, 326.
and philosopher Galen. Humoral theory held that the body was composed of four humors: blood, black bile, yellow bile, and phlegm. Each humor was related to an element in nature, heat for blood, dryness for yellow bile, coldness for black bile, and moistness for phlegm. These fluids mediated between the body and the mind, regulating everything from an individual's temperament to their well-being. Humoral theory was equally explanatory in linking the body to its exterior surroundings in an unbroken line outward from the body to its material environment.

In a famous example, Gail Kern Paster, a leading figure in historical phenomenology, contends that something we view as so unrelated to bodily fluids, the passions, are directly tied to early modern beliefs about the humors. Paster cites a treatise by Bishop Edward Reynolds that contrasts Christ's passion and that of man. Reynolds deploys an analogy for the humoral body, that "the passions of sinful men are many times like the tossing of the sea, which bringeth up mire and dirt; but the passions of Christ were like the shaking of pure water in a clean vessel, which though it be thereby troubled, yet it is not fouled at all." By comparing this movement to the sea, Reynolds makes explicit the direct relationship between the external world and the material body.

Historical phenomenology derives much of its explanatory power from early modern humoral theory for two reasons. First, humoralism was the dominant vocabulary for the expression of selfhood in the early modern period, and its cultural influence, historians claim, shaped much of how early modern subjects felt and perceived the world. Early modern England accepted humoral theory as faithfully as we accept scientific ac-

4 Tillyard, 70.
5 Schoenfeldt, 6.
6 Paster, The Body Embarrassed, 1.
counts of human physiology like neuroscience and pharmacology, and likewise it domi-
nated assessments of their own experience of self and society. Second, the belief in
humoralism made an individual's interior experience vastly different from our own post-
enlightenment experience that results from the division of bodily processes. Paster con-
tends that the post-enlightenment world has separated the body into dualistic antago-
nists, for instance mind/body and reason/emotion. For the early modern subject, these
were not discrete categories, as Bishop Reynolds's example illustrates. Instead, interior
states were tied directly to the changing world, perpetually in emotional conversation
with the physical world surrounding them.

Many historians find the difference between humoralism and dualism to offer not
only a scientific differentiation, but an ideological one. Instead of being confined by con-
temporary society's mind/body dualism, many historians find that the humoral framework
allows us to view from the early modern imagination a greater degree of self-fashioning
than our own post-Cartesian representations. Michael Schoenfeldt, another leading fig-
ure in historical phenomenology, suggests that humoral discourse allowed the subjects
to "produce the parameters of individual subjectivity."

Perhaps the most representative description of this view comes from Shigehisa
Kuriyama's claim that "the history of the body is ultimately a history of ways of inhabiting
the world." Gail Paster quotes this sentence approvingly in Humoring the Body, and his-
torical phenomenology at its core is about these different ways of experiencing interior
life. The field offers a profoundly different historical account of interiority than our own,

7 Schoenfeldt, 15.
8 Paster, 134.
valuable for both its explanatory power in early modern texts as well as to highlight our own biases about our internal experience. Despite the biological inaccuracies we might find in early modern physiology, Paster states that “no matter what the physical facts of any given body function may be, that function can be understood and experienced only in terms of culturally available discourses.”

She then continues to say that “no one can really dispute that science is bringing us to an understanding of human physiology that is progressively more accurate and complete. But from the point of view of ideological efficacy and historical determination, historians of the body have no business distinguishing between physical theories on empirical ground.”

For Paster, humoralism, or any other totalizing physiological theory, produces the subjective experience, not the mind’s innate faculties.

Humoral theory, in other words, offers a kind of self-fulfilling prophecy—its theories, though inaccurate, shaped early modern experience to the degree that subjects felt as if the theories were true. Written descriptions of emotional states, like Burton's *Anatomy of Melancholy*, are not just symbolically related to how early modern subjects experienced the world, but actively shaped those experiences. For cultural historians, the truth of these theories is less important than that they were believed by a majority in early modern society, and it is little effort in the humanities today to leap to the conclusion that experience, even the most internal processes, is shaped entirely by culture.

But is any of this true? How would we put historical phenomenology to service in understanding what the emotional experience of our hypothetical playgoer, Thomas

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10 ibid., 4.
Harison, was like as he attended a performance of *Macbeth*? Does recovering the prevailing scientific and cultural attitudes about interiority actually inform our understanding of the early modern lived experience?

For all its insights into early modern consciousness, I believe that historical phenomenology is unable to answer these questions. Its basis, an imagined account of early modern interiority, fails to address the *qualia* of the emotions it studies—the experience itself, not the experience as reflected upon and described. In the search to investigate how interiority "might have been experienced differently by early modern subjects," historical phenomenology refuses to recognize the broad similarities between the interior lives of individuals across all cultures—a quality frequently referred to as human nature.\textsuperscript{11} It is difficult to disagree that emotions can be influenced by their cultural environment, but there is a growing body of research that suggests that many of our emotions are innate, and vary only slightly between cultures. The following section will detail this emerging scholarship and suggest ways in which it challenges the dominant interior view of the early modern subject.

### Are Emotions Innate?

For much of the twentieth century, social scientists asserted that emotions differed greatly from culture to culture, having formed *ex nihilo* from a society's cultural practices. This belief depended on the research of anthropologists like Margaret Mead, who wrote detailed ethnographies that described how island cultures diverged from our own regard-

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\textsuperscript{11} Paster, et al. 2-3.
ing even the most basic human behaviors. Mead’s famous study of Samoan culture claimed that the Samoans lived lives free of jealousy and other negative emotions that were previously taken as central to human nature.\textsuperscript{12} Spurred on by these discoveries, researchers like Colin Turnbull were free to avow, for example, that the Ik, a tribe from Uganda, never experienced the emotion of love.\textsuperscript{13} With these findings in hand, it was hard to deny that emotions were constructed entirely from “culturally available discourses.” Indeed, in this view, human nature was infinitely malleable, and nothing else could explain its variability and difference across cultures.

Unfortunately, much of this research ran into significant empirical problems. Mead, the patron saint of constructivism, turned out not to have lived among the Samoans, but at a nearby hotel. Worse still, she relied exclusively upon two young women as informants rather than directly observing the tribe or conducting behavioral studies—the informants later confessed that they told her deliberately false stories. Jealousy, in fact, was one of the leading causes of violence among the Samoans. There was even a word for it: \textit{fua}.\textsuperscript{14} One by one, the wholly unique character of societies studied by anthropologists’ were overturned: the Chambri did not have reversed sex roles, Tshambuli men did not take great pride in asserting femininity, and the supposedly “gentle” Arapesh \textit{did} take pride in mutilating the murdered bodies of their victims.\textsuperscript{15}

At the same time, as Mead’s theories were being debunked, biologists began to study a phenomenon among organisms known as “preparedness.” All species, including

\begin{itemize}
\item \textsuperscript{12} Mead, 35-36.
\item \textsuperscript{13} Prinz, 103.
\item \textsuperscript{14} Freeman, 243-244.
\item \textsuperscript{15} Buss, 5-9.
\end{itemize}
humans, seemed to learn certain behaviors more rapidly than others, from the earliest age (fear of snakes, for instance). Other behaviors, like the fear of flowers, could hardly be acquired after thousands of reinforcement trials. From these studies, biologists cleared a path for psychologists to investigate the possibility of universal human emotions. In one groundbreaking study, Paul Ekman had bilingual interpreters read stories to preliterate people in the highlands of New Guinea, the Fore, who had previously lived in complete isolation from the rest of the world. These stories described varying emotion-eliciting events, like the death of a child or smelling a bad odor. When participants were asked to choose from a set of facial expressions printed on cards that best described their reaction to the stories, the Fore chose most of the same cards that are associated with emotional expressions in the West. Since emotions are tied so closely to bodily expression, Ekman concluded that the emotions chosen were universal to all cultures, and that humans have an innate capacity to express them in a similar manner.

The growing body of research on the universality of emotions led many to question why emotions were valuable to humans at all. This question helped found the field of evolutionary psychology, which asserted that emotions were forged over time by natural selection acting upon our ancestors. The universality of emotions could not be explained by environmental factors alone, evolutionary psychologists claimed. The belief that the sun is warm requires no evolutionary explanation, despite being universally agreed

\[16\] Seligman & Hagar, 5.

\[17\] Ekman, 179.
upon, but the sharing of facial expressions, response to musical scales, color, and other non-environmental features meant that these aspects must be innate.\textsuperscript{18}

The adaptive explanation holds that emotions had a survival value to our Pleistocene ancestors. Fear, for instance, evolved to help us cope with danger. Having a psychological module in place to help us survive would be exactly the type of thing that would be selected for in nature, and those with a hearty dose of fear would live to fight another day. Evolutionary psychologists expand the suite of adaptations out to social emotions, like guilt, which they claim evolved to prevent cheating among groups. Without guilt as an evolutionary mechanism, the essential human advantage of reciprocal exchange would never have benefitted our long-term survival.\textsuperscript{19} Evolutionary psychology asserts that emotion evolved to carry out specific functions in response to recurrent situations, e.g. violence, friendship, or jealousy.\textsuperscript{20}

The agreement within the social sciences regarding the innate origin of the emotions presents a difficult challenge to historical phenomenology. The fundamental assumptions of the field are now contradicted by empirical research that asserts that important aspects of human interior experience are universal and innate, not subject to the malleability of culture. To survive, the phenomenological emphasis on understanding the different ways early modern subjects experienced the world must be constrained by the nature of human emotional experience. Only then can historians truly reconstruct the experience of feeling and perceiving in early modern England.

\textsuperscript{18} It should be noted, however, that this does not imply that music or the arts are somehow adaptive, a frequent claim by evolutionary-minded literary critics. Instead, we should consider some of the modules associated with hearing tonal music to be adaptive in our evolutionary history.

\textsuperscript{19} Trivers, 12.

\textsuperscript{20} Tooby & Cosmides, 114-116.
Emotional and Moral Intuitions

There is a second problem with the project of historical phenomenology. It is an empirical one: *post facto* reasoning about emotional and moral issues is not directly related to lived, first-order emotional experiences. The recollections of Burton or the codifications of Galen are written accounts of emotional experience and physiology that exist several steps removed from the moment of emotional experience. Their accounts of interior experience are explanations reconfigured in tranquility, to paraphrase Wordsworth. When, for instance, Burton claims that “the manners doe follow the temperature of the body,” we should not take this statement as literally true. To be fair, historical phenomenologists do not either, but their response is instead to interrogate how this claim came to be through analysis of early modern discourses. I believe that claims such as this require equal effort in their comparison to contemporaneous accounts of human emotional and moral psychology; if, for instance, manners are associated with heat across cultures, is there an evolutionary mechanism or mental module to explain its presence? If not, then it seems to be in the domain of culture, not before.

The passage of time between the emotional qualia and deliberative reflection on the experience at a later date can often produce two entirely different results. Emotions are dynamic things, and our understanding of our own feelings can change quickly. Many psychological studies are presented with this problem of emotional change over time. For instance, a group of German women reported extreme levels social anxiety

21 Burton, 1:372.
during a study only to have most of them deny eighteen months later feeling anxious at the time.\textsuperscript{22}

Do words even reflect feelings reliably in the first place? The psychologist Jerome Kagan points to two studies that seem to indicate that they do not. First, two groups of adolescents reported on the emotional quality of a story. One group, all of whom had an internalizing disorder characterized by high frequencies of anxiety and guilt, did not use more words describing those emotions than did the control group. In a further study, of autobiographical essays, the frequency of emotional words had no relation to the writers' judgments of the salience of those emotions.\textsuperscript{23}

Besides, there is significant evidence that the emotions as well as moral judgment are driven more by intuition than cultural influences. Among the empirical research on this phenomenon, the most compelling is Jonathan Haidt's research that argues for a "social intuitionist" approach to moral reasoning and its relationship to emotion. In one study, participants were given the following vignettes:

Julie and Mark are brother and sister. They are traveling together in France on summer vacation from college. One night they are staying alone in a cabin near the beach. They decide that it would be interesting and fun if they tried making love. At the very least, it would be a new experience for each of them. Julie was already taking birth control pills, but Mark uses a condom too, just to be safe. They both enjoy making love, but they decide never to do it again. They keep that night as a special se-

\textsuperscript{22} Azizian, et al. 213.
\textsuperscript{23} Cited in Kagan, 121.
cret, which makes them feel even closer to each other. What do you think about that? Was it OK for them to make love?^{24}

Respondents to the story almost always reply immediately, saying that it is definitely wrong. Yet when pressed for a reason, they begin a deliberative search to find one. They describe the dangers of inbreeding, but are quickly contradicted by the explicit use of birth control. When all their arguments are exhausted, most simply claim “I don’t know, I can’t explain it, I just know it’s wrong.”

In a second study, Haidt hypnotized participants to feel disgust when they encountered neutral words such as “take” or “often.” He then gave them vignettes that neutrally described a student council representative scheduling academic talks. The control group had no problem with the representative’s actions, but in the group that were induced to feel disgust at neutral words used in the vignette, they immediately judged the representative’s actions as morally questionable. Yet, when pressed for a reason, they would give ambiguous responses, such as “It just seems like he’s up to something!”^{25}

Haidt’s research on “moral dumbfounding” has demonstrated that reasoning often plays only a support role to the emotions in moral judgment, more public relations than impartial judge.^{26}

The primacy of unconscious and immediate moral judgment presents a dilemma for any historical account of the emotions. Since the historical record is by necessity post facto, it presents at best an incomplete and at worst an inaccurate representation of

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^{25} Haidt & Wheatley, 758.
^{26} Haidt, Tail, et al., 814.
emotional and moral experiences. The following figures offer a contrasting model of how emotion and moral judgment figure into both approaches I have described:

![Figure 1. Historical phenomenological model of moral judgment](image1)

![Figure 2. Social intuitionist model of moral judgment](image2)

With these models in mind, it is clear that historical phenomenology only addresses the reasoning stages of moral judgment, not the immediate affect or intuitive response. Can we recapture the immediate perceptions of early modern subjects by other means? Fortunately, research in psychology suggests that we should have confidence that we can, with some degree of faithfulness, reconstruct the early modern mind, since it is the same as ours in many ways. If humoral discourse shaped the way early moderns thought about the world, I am uncertain that it actually influenced their emotional and moral perceptions in the way described by current research. As you will see in the following chapter, it is not necessary to invoke the language of humoral theory to present a full account of the emotional experience of early modern life.

Like Mead, historical phenomenology has listened only to the perspective of a few informants, relying on stories of humoral discourse to form their ethnographies of early modern England. This leads scholars like Jonathan Gil Harris to painstakingly
demonstrate, for instance, that early modern England was “a culture where both virtue and sin were repeatedly coded olfactorily.”27 Without a more general knowledge of the importance of olfaction in moral judgment across cultures, early modern scholars will continue to make the mistake that there is something special in this observation—instead, it is simply a aspect of human nature expressed through the language of early modern society. In the chapter that follows, I will present an alternate model of reconstructing the early modern interior experience, one that still relies on accounts “from the inside,” but integrates recent empirical approaches to sense experience. From this, I will attempt to reconcile the historical and innate registers of early modern life, a combined approach that has a better opportunity to recapture the interior lives of early modern subjects.

27 Harris, 479.
Chapter 2. *Macbeth* and Moral Judgment

Malcolm: Dispute it like a man.
Macduff: I shall do so.
But I must also feel it as a man.

— *Macbeth*, 4.3.220-21

In its most basic structure, the plot of *Macbeth* involves the assassination of a king by an aristocratic military hero; this usurper descends into guilt, madness, and tyranny, until he is overthrown and killed by an invading army. If we consider *Macbeth* only through this brief outline, what emotions would we expect to dominate an early modern audience's response to this martial plot? Would they feel anger at the harm done to King Duncan, his family, and the noble Scottish landscape? Or would they feel contempt at Macbeth’s violation of social hierarchies as he surmounted his position, sacrificing honor and loyalty for base ambition?

Both of these emotional registers would have presented Shakespeare with an excellent opportunity to address issues that interested him throughout his theatrical career, such as the nature of kingship, the ethics of regicide, and the politics of succession. Yet the play seems less interested in evoking these emotions in response to Macbeth’s crimes than placing disgust at the center of all moral violations. The following chapter will address why this puzzling emotion dominated the emotional, moral, and physical ecology of early performances of *Macbeth*, and why it still has the power to affect audiences nearly four hundred years after its first performance.
Macbeth is perhaps Shakespeare’s most disgusting play. Witches concoct noxious poisons, innocent children are murdered, kings are assassinated in their sleep, and bodies are dispatched and dismembered. Blood is mentioned nearly fifty times: it covers swords, bolters hair, stains hands, smears the innocent, drips from daggers, simmers in cauldrons, and marks men for death. Macduff, predestined to kill Macbeth, was ripped from his mother’s womb during childbirth. In the play’s final scene, he enters with Macbeth’s decapitated head, echoing the battle from the play’s opening, where Macbeth is reported to have “unseam’d” his opponent “from the nave to the chaps, and fix’d his head upon [their] battlements.” (1.2.22-23)

The presence of the disgusting has not been lost on generations of critics. Harold Bloom has stated that he “can think of no literary work with Macbeth’s power of contamination.” Despite this recognition, the centrality of disgust in both the performance and the text of Macbeth has never been fully explained. Critical discussion over the morality of the play has continued over a hundred years, and yet the presence of disgust and contamination are rarely mentioned. Instead, readings have addressed everything from Macbeth’s flat characterization being derived from medieval morality plays to questioning whether the overwhelming influence of fate made it less of a tragedy. These attempts to assess Macbeth’s moral universe, however, have relied on rational accounts of action within the play–Macbeth’s violation of social and hierarchical norms and his presumed deliberative ambition–and a discrete teleology for each character’s crimes. It

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1 All references to Macbeth will be cited inline and refer to the Norton edition cited in the bibliography.
2 Bloom, 179.
3 Hunter, 8.
would help to remember that disgust, not reason, is a continual presence in Shakespeare’s great moral tragedy.

How did Shakespeare’s evocation of disgust influence the emotional and moral states of early modern audiences? And can we, as a contemporary audience, understand their state of disgust as similar to our own contemporary sense? This chapter will attempt to answer these questions by analyzing the emotion of disgust in early modern England, especially as it relates to moral judgment. I will present a comparative description of early modern disgust to cross-cultural accounts of disgust elicitors, with special attention paid to the unique condition of London playhouses and the language of Macbeth both as pungent sources of disgust. Only through a complete understanding of Macbeth’s power to evoke disgust can we understand the complex moral ecology of the play, how it influenced early modern audiences, and how it continues to influence audiences throughout the world today.

I have already described some sources of disgust within Macbeth, that is to say, in the language of the play. But an early modern performance would have been marked by an additional source of disgust: a horrible odor. In a recent essay, “The Smell of Macbeth,” Jonathan Gil Harris notes that the stage direction that begins the play, “Thunder and lightning” (1.1 sd), had this surprising effect on its audience: a horrible odor. The effect was produced by a squib, a gunpowder-like substance composed of sulfurous brimstone, coal, and saltpeter. Adding to the odor caused by the gunpowder, Harris points to a 1588 manual on the manufacture of explosives, where the author, Peter Whithorne, explains that saltpeter “is made from the dunge of beasts, … and above all other, of the

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4 Harris, 465-466.
same that commeth of hogges, the most and best is gotten.”⁵ Even worse, these ingredients then must be “compounded with the oile of egges, and put … under hot dung for a month.”⁶ It is no surprise, then, that the witches end their incantation at the end of the play’s first scene, “Hover through the fog and filthy air” (1.1.11). Given the pungent effect of squibs, the line takes on a much more literal sense than the figurative foulness of Macbeth’s Scotland.

What effect did these pyrotechnic emanations have on an early modern audience? For Harris, the effect of this putrid combination of odors recalled in its audience historical events as diverse as the Gunpowder Plot and Catholic festival entertainments that staged demonic rituals.⁷ Harris’s argument, guided by a historical phenomenological approach, aims to give new attention to the early modern “smellscape,” recapturing the sense of smell from a intellectual history dominated by the study of what is seen and heard. His claim is that the effect on early modern audiences was to send them sliding through a kaleidoscopic number of temporal and olfactory memories associated with burning sulfur in early modern culture.⁸

Despite his innovative reading of Macbeth’s smellscapes, Harris’s concludes that “the stink of Macbeth’s squibs must have prompted audience experiences that are simply too culturally elusive or quirkily subjective to be readily legible to us now.”⁹ I believe, however, that if we move beyond the phenomenological account prescribed by Harris,

⁵ Whithorne, fol. 24.
⁶ ibid., fol. 46r.
⁷ Harris, 477.
⁸ ibid. 468-71.
⁹ ibid., 486.
we may be able to recapture some of that audience experience. Harris’s focus on the effect of gunpowder on an early modern audience still leaves the question of what their physiological reaction was to the squib’s denotation, and how this pervasive stench might have influenced their emotional and moral judgments of the play that followed. Though we have no way of verifying whether early modern subjects experienced the super-sensational moments of olfactory memory described by Harris, I will point to a growing body of research from the psychological sciences to investigate the probable physiological reaction to the squibs—disgust—and its influence on subjective moral judgment. Thus, instead of investigating early modern experience through phenomenological analysis, I will approach the problem from the opposite direction, drawing on contemporary research into how individuals perceive odors, judge impurity, and pursue bodily and moral cleanliness. Through this, I hope to form a sharper reconstruction of the early modern playgoing experience, specifically how emotions were conjured through the environmental conditions of performance and figurative language.

My secondary goal in this chapter is to combine two seemingly disparate interpretive modes, the historical and the cognitive. I will attempt to do this by negotiating between the various cultural and innate aspects of the emotion of disgust and its effect on the surrounding cluster of emotional and moral intuitions. Emotions cannot be understood through culture alone, a principle recognized in every field that studies human cognition, and I will present an analysis of disgust that includes both its place in innate human faculties as well as its unique character in early modern England. I will contend that it is not enough to consider *Macbeth*’s smellscape through contemporaneous accounts of olfaction—a strategy that ignores some of the most basic features of emotional
life. For instance, how would Harris reconcile his account with the assertion that basic emotions have been shown to be felt immediately, even before their source is registered consciously? The psychologist Joseph LeDoux has demonstrated that individuals respond in fear to a photo of a snake before the image itself reaches the neocortex. This type of unreflective emotional reaction is unavailable to phenomenological accounts of early modern interiority, and immediate affective processes have implications for early modern emotional experience that equal those produced by deliberate reasoning and the half-remembered smell of gunpowder.\textsuperscript{10} If Harris’ account describes what an early modern audience might have consciously thought, the analysis that follows attempts to describe what they might have felt.

LeDoux’s research presents a difficult problem for historical phenomenologists. Their research derives from the deep linguistic reservoir of deliberate emotional writing, from the Galenic corpus to a poet’s epode. For them, the empirical study of emotion seems hopelessly small—a subset of the rich emotional lives they chronicle. The study of immediate and intuitive affect has been largely dismissed by the field, a sin committed against the “veil of language.”\textsuperscript{11} In contrast, LeDoux claims that “if we do not need conscious feelings to explain what we would call emotional behavior in some animals, then we do not need them to explain the same behavior in humans.”\textsuperscript{12} I will attempt to show, however, that these two approaches are not entirely in conflict, since emotions have both biological and cultural components.

\textsuperscript{10} LeDoux, 107.
\textsuperscript{11} Paster, et al., 9.
\textsuperscript{12} ibid., 17.
Emotions cannot be considered entirely through language, and nonlinguistic intuition is a necessary component of thinking about the subjective experiences of an early modern audience. Emotional intuitions, though expressed differently by many cultures, are thought to be universally held. Disgust is an emotion recognized across all cultural borders—an insight first discovered by Paul Ekman, who confirmed that facial expressions for disgust were universally understood, even among cultures with virtually no contact with the developed world.\textsuperscript{13} Though bounded by specific natural aversions, cultures still vary widely in what they consider disgusting, judge impure, and deem contaminated. Therefore, disgust presents a unique opportunity for consilience between those who believe entirely in either the historical or innate construction of human experience.

Shakespeare of course had no access to contemporary research on disgust. Still, his plays seem to leverage the disgusting to confuse moral and physical contamination in ways that were not scientifically recognized until the late twentieth century. From his earliest plays, Shakespeare had an intuitive sense of the complex interaction between disgust, piety, and morality. Note the spectacles of mutilation and “irreligious piety” that marked his first dramatic effort, \textit{Titus Andronicus}. Or consider Antony’s description of the “foul deed” of regicide in \textit{Julius Caesar} as releasing a noxious odor into the air: “Cry ‘Havoc’ and let slip the dogs of war; / That this foul deed with smell above the earth / With carrion men, groaning for burial.” (3.1.275-277) In the sections that follow, I will outline the elaborate ways in which disgust influenced the experience of \textit{Macbeth}.

\textsuperscript{13} Ekman, 276.
From Oral to Moral

The specificity and apparent randomness of what a society finds disgusting often tempts individuals into thinking of the emotion solely in the domain of culture. Yet disgust has resemblances across all cultures, and it is a core emotion that humans hold in common. Research on the biology of disgust date back to Darwin’s *The Expression of the Emotions in Man and Animals*, where he defines disgust as something revolting, primarily in relation to the sense of taste, as actually perceived or vividly imagined; and secondarily...through the sense of smell, touch and even of eyesight.”¹⁴ This basic theory of disgust was not expanded until the psychoanalyst Andras Angyal added that the offensive objects in question are “contaminants; that is, if they even briefly contact an acceptable food, they tend to render that food unacceptable.”¹⁵

Though contemporary research on the emotion of disgust generally agrees with these sentiments, its boundaries have expanded considerably. Researchers have discovered that disgust focuses primarily around the mouth and eating, marking it as one of the emotions with the clearest link to an organism’s motivation—hunger, in this case. Most evolutionary biologists see disgust as an evolutionary adaptation to defend against toxins, infection, and parasites. And since disgust is found only in humans, its presence lends evidence to the avoidance model, since we are also the most omnivorous eaters in the animal kingdom.¹⁶ Emerging out of a system of contamination avoidance, it would be

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¹⁴ [Darwin, 253.
¹⁵ [Angyal, 393-394.
¹⁶ Haidt and Rozin, 53.
an incredibly valuable resource in keeping ourselves alive in an ancestral environment where “nutritional facts” are not available for all viable nutrients, causing Steven Pinker to note that “disgust is intuitive microbiology.”

Disgust is triggered by several physical entities, mainly emerging from animals, animal products, and contamination. Widespread evidence suggests that across all cultures and time periods, humans have felt disgust towards almost all bodily effluvia—feci-
es, vomit, mucus, urine, and blood (menstrual blood in particular). The psychologist Paul Rozin, a pioneer of disgust research, notes that many of these products are potentially harmful products that could taint animals as potential food. Additionally, disgust is universally felt around issues of contamination: food or drink is rejected in some societ-
ties when touched even by a sterilized cockroach and foods are often rejected if handled by an unsavory or simply disliked person. The contamination effect, Rozin suggests, is most likely an instance of the “sympathetic magical law of contagion” that claims that “once in contact, always in contact.”

Whatever the physical source of disgust, at some point in our evolutionary history it became valuable as a personal and social heuristic to judge one thing as clean and desirable and another as unclean and loathsome. Core disgust, the term given by psychologists to disgust elicited in reaction to bodily contagions, shares more than a name

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17 Pinker, 384.
18 Haidt & Rozin, 759-760.
with its moral equivalent.\textsuperscript{19} Regardless of its basis in physical aversion, core disgust easily shifts to social narratives of moral violation. Though disgust evolved, phylogenetically-speaking, to avoid physical contaminants, it is now triggered by such diverse persons as cheaters, wrongdoers, and reviled members of outgroups.\textsuperscript{20} Researchers that ask participants to recall a time they were disgusted find that they are not told stories of rotten food or waste products, but instead are given angry narratives of moral violation. Most recently, a study showed subjects a documentary on neo-Nazism and carefully monitored their physiological responses. Instead of responding with elevated heart rates and other signs of anger, heart rates among participants instead decreased, and they reported physiological changes like tightening in their throat, and other indicators of a disgust response.\textsuperscript{21}

This transition from physical to moral disgust has been charted by social psychologists, where it is hypothesized that the emotion transitioned from a strictly physiological response during our evolutionary history to its present role as a determinant of sociomoral violations, as in the table below:

\begin{table}
\centering
\begin{tabular}{|c|c|}
\hline
Emotion & Description \\
\hline
Core Disgust & Physical aversion to contaminants \\
\hline
Moral Disgust & Social narratives of moral violation \\
\hline
\end{tabular}
\end{table}

\textsuperscript{19} The lay-usage of disgust to describe both physical and moral opprobrium is not simply a linguistic convention: words for disgust in almost every language refer both to core disgust as well as certain moral violations. Furthermore, neuroscientific studies show that functional magnetic resonance imaging (fMRI) results display similar activity occurs in the anterior insula, the region of the brain associated with “somatic marking,” or where gut feelings meet higher cognition. See Haidt & Rozin.

\textsuperscript{20} Haidt & Rozin, 110-111.

\textsuperscript{21} Sherman, Haidt, and Cohen, 5.
The latter stages of disgust correspond to a recent theory of moral judgment that tries to explain why disgust, contempt, and anger factor so heavily in our moral reasoning. The theory, proposed by anthropologist Richard A. Shweder and colleagues, suggests that three ethical codes underlie the moral codes of almost all societies: fulfillment of community roles, the violation of which is associated with contempt; the extension of autonomy and rights, associated with anger; and spiritual sanctity from degrading or polluting acts, associated with disgust. In cross-cultural studies, Shweder notes the rough match between these emotional responses in subjects and their attenuating moral violations. Thus, moral transgressors, social offenses, and outgroups are met with a mixture of disgust, anger, and contempt, depending on their perceived violation.

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22 Adapted from Haidt & Rozin, 764.
23 Shweder, 35.
Despite the universality of these responses, disgust at moral violations can change quickly over time. For instance, in the contemporary United States, disgust responses to cigarettes smoking and its detritus (e.g. ashes and butts), have changed drastically in our lifetime. This process, which Rozin terms moralization, accounts for much of the differences in disgust responses between cultures.\textsuperscript{24} For instance, when Haidt asked North Americans and Brazilians of various socioeconomic classes whether acts such as incestuous kissing, eating one’s dead pets, and other disgusting but physically harmless actions were morally wrong, he found a great difference between responses. Affluent North Americans, in particular, were much less likely to condemn these actions—a response assumed to be based on the anxiety of using disgust as a moral barometer in highly egalitarian societies.\textsuperscript{25}

**Pah, Fie, and Fuh!**

Like all cultures, early modern Londoners were put off by the impact of decay, death, waste, and disease upon the senses. Though the word disgust did not enter the English lexicon until the early seventeenth century—from the French \textit{degouster}, to taste—early modern England did not lack copious and varied sources of the execrable. The English language had a number of interjections to describe the disgusting—fie, pah, fuh, and others. Consider King Lear’s reaction to the stench of hell: “There’s hell, there’s darkness, there is the sulphurous pit, burning, scalding, stench, consumption; fie, fie, fie! pah! pah!”\textsuperscript{26} Disgust was memorialized in poems by urbane Londoners, as in “the filth,

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{24} Rozin, Moralization, 812.
\item \textsuperscript{25} Haidt, Koller, & Dias, 30.
\item \textsuperscript{26} Quoted in Miller, 76.
\end{itemize}
\end{footnotesize}
stench, noise” of the fleet ditch in Ben Jonson’s “On the Famous Voyage.” The disgusting is described as an unfortunate part of daily life for all but the most affluent Londoners, and despite the assumption by some contemporary readers that early modern society might have been more tolerant of odors and other sources of disgust, the pervasive accounts of disgust and the disgusting demonstrate that these emanations were no more welcome than in our own culture.

We owe much of our knowledge of early modern disgust to accounts written by chroniclers of the plague. These writers were thorough in their accounts of dung hills, carcasses, and stenches. The “stinche of chanels, of filthie dung, of carion…of common pissing places” was described in detail by Thomas Brasbridge.27 In the 1625 chronicle, A watch-man for the pest, the College of London physician Stephen Bradwell details “the…noysome vapours arising from filthy sincks, stincking sewers, channells, gutters, privies, sluttish corners, dunghils, and uncast ditches; as also the mists and fogs that commonly arise out of fens, moores, mines, and standing lakes; doe greatly corrupt the Aire: and in like manner the lying of dead rotting carrions in channels, ditches, and dunghills; cause a contagious Aire.”28 Adding to this was the practice among London’s butchers of emptying blood from basins into alleyway—a practice noted by Falstaff in The Merry Wives of Windsor: “Have I lived to be carried in a basket, like a barrow of butcher's offal, and to be thrown in the Thames?” (3.5.85)29

As a result of this noxious combination of waste and pollution, most of London stunk. Stench was a special source of concern, since early modern physiology believed

27 Brasbridge, 7.
28 Bradwell, 4.
29 Slack, 45.
that smell brought a substance directly into the brain. The Galenic theory of olfaction held that two projections spanned from the front ventricle of the brain to the plate separating the nasal cavity from the brain. These extensions were not believed to be nerves, but brain matter itself, leading physicians to believe that the brain barrier was permeated by odors.\(^{30}\) The anatomist John Banister describes the breath as “ascendyng up by the nostrels into...little holes” which “passeth this way into the brayne.”\(^{31}\) These inhalations, the cultural historian Robert Jenner points out, could absorb and penetrate the body as easily as food or drink, noting that anatomists of the day debated whether cooks were satiated simply by absorbing the odors of food and that James I claimed that tobacco induced “a certain vemous facultie” to the brain.\(^{32}\)

This anxiety about the penetrating ability of odor caused early modern reactions of core disgust to transfer very differently into the social realm, and it is easy to notice how completely physical disgust coupled itself with moral judgment. The minor playwright, Henry Chettle, blamed the “corruption of the ayre” for the spread of disease, but did so through a uniquely moral argument:

> It is no doubt that the corruption of the ayr, together with uncleanly and unwholsome keeping of dwelling, where many are pestered together, as also the not observing to have fiers private & publiquely made as well within houses, as without in the streets, at times when the ayre is infected, are great occasions to increase corrupt and pestilent diseases.

> Neither can it be denied, that the over-boldnes of many preasing into in-

\(^{30}\)Jenner, 133.

\(^{31}\)Banister, fo. 101.

\(^{32}\)Jenner, 134.
fected places, and the lewdnes of others with sores uppon them, presum-
ing into the open ayre, some of wilfulnes, but truly many of necessitie,
contaminateth & corrupteth divers.\textsuperscript{33}

Chettle’s reliance on equating disease with lewdness—a frequent association in the
minds of early modern moralists—suggests the need to enforce both moral and physical
behavior against what he found to be objects of his disgust.

This blending of physical and moral disgust threatened not only to overwhelm the
human body, but the body politic. Writing after the 1603 outbreak of plague, Henry Pe-
towe discusses:

\ldots the excessive abomination of filthiness practiced in the [Subburbs],
more then the rest of the City. That as in a body, all the superfluity of ex-
tremities, are by the power of a vegetatue heate, wronght to the extre-
metie of the body: So this filthy froth of sensuall beastlinesse, being by
the force of good goverment…expelled from the inner part, and as I may
say, the hart of the City, did residence in the utmost skirts and appendent
members thereunto, and became a fit metter for the first burning of Gods
revengefull wrath.\textsuperscript{34}

The “froth of sensual beastliness,” viz. immoral behavior that would have little to do with
airborne disease to a contemporary reader, is blamed for the presence of plague in Lon-
don’s suburbs. But the guiding metaphor, that of the state as literally a plague-stricken
body, affirms that early modern disgust influenced not only society’s thinking about indi-

\textsuperscript{33} Chettle, 1.
\textsuperscript{34} Petowe, A 4r-v.
viduals, but the nation itself. And directed at specific outgroups, the lower and middling class of tenants that populated the outer boroughs, moralists like Petowe regarded as a source of physical and moral contamination.\footnote{Cottrell and Neuberg (2005) have demonstrated similar outcomes when testing how outgroups that are perceived as threatening contamination, viz. gay men for their study, are associated with disgust more than anger—a response reserved for groups that represent barriers to social goals.}

This mixture of physical and moral disgust had a profound impact on Shakespeare’s moral thinking, or at least the moral reasoning of some of his chief characters. Something was, after all, rotten in the state of Denmark—a combined act of fratricide and regicide that in \textit{Hamlet}, like \textit{Macbeth}, evoked disgust more than anger. Even Claudius admits “O, my offense is rank, it smells to heaven.”\footnote{Hamlet, 3.3.36.} For Hamlet, it is life itself that has the odor of disgust, brought on by his disdain for his mother’s illicit sexuality:

\begin{quote}
How weary, stale, flat and unprofitable
Seem to me all the uses of this world!
Fir on’t, ah fie, ’tis an unweeded garden
That grows to seed. Things rank and gross in nature
Possess it merely.\footnote{ibid., 1.2.133-137.}
\end{quote}

\textit{King Lear}, a competitor with \textit{Macbeth} in sheer quantity of disgusting imagery, or rather “smellscapes,” since the “vile jelly” of Lear’s eyes have been plucked out. Lear’s inability to see leads the Regan suggest that Lear “smell his way to Dover,” an apt metaphor for the moral blindness of \textit{King Lear}'s landscape. And when Gloucester asks to kiss the hand of a raving Lear, he replies, “Let me wipe it first; it smells of mortality.”\footnote{Lear, 4.6.129-130.} All of
Shakespeare’s tragedies seem to be preoccupied more with moral revulsion and disgust than moral reasoning. Even in a lyrical mode, Shakespeare conflates the relationship between moral and physical disgust. In the *Rape of Lucrece*, for instance, the speaker accuses the environment itself, a vaporous night with poison clouds and rotten damps, of a crime against love:

> O hateful, vaporous, and foggy Night!
> Since thou art guilty of my cureless crime,
> Muster thy mists to meet the eastern light,
> Make war against proportion’d course of time;
> Or if thou wilt permit the sun to climb
> His wonted height, yet ere he go to bed,
> Knit poisonous clouds about his golden head.
> With rotten damps ravish the morning air;
> Let their exhaled unwholesome breaths make sick
> The life of purity, the supreme fair,
> Ere he arrive his weary noon-tide prick;
> And let thy misty vapours march so thick,
> That in their smoky ranks his smother’d light
> May set at noon and make perpetual night. (771-84)

In short, early modern disgust aligns closely with universal descriptions of the emotion, including Shakespeare’s own conception of disgust, purity, and contamination and their relationship to moral judgment. In the section that follows, I will present a model for how disgust functions in *Macbeth* for early modern audiences. Though certain
aspects of early modern disgust, such as the sanctity of kingship, are inexplicable to a contemporary audience, some aspects of performance will be the same for a staging of Macbeth at any point in history.

The Experience of Macbeth

Experiencing a performance of Macbeth was certainly a disgusting one for early modern audiences. Playhouses in early seventeenth century London were dirty, hot, and crowded. Thomas Dekker, writing with authority as both a playwright and a chronicler of city life under the plague, made special note of this aspect of theatergoing. Dekker offers descriptions of “the Plaudities and the breath of the great beast” that emerged from audiences during the performance of plays.39 Playhouses “smoakt euerye after noone with Stinkards, who were so gleded together in crowdes with the Steames of strong breath, that when they came foorth, their faces looke as if they had been perboylde”40 In 1689, the Restoration satirist, Robert Gould, claims to have seen Shakespeare “when [he] Hamlet, or Othello read,” and described the theater as a place where “reeking Punks like Summer Insects swarm, / And stink like Polecates when they’re hunted warm: / Their very Scents cause Apoplectick Fits.”

Though Gould’s account should be taken more as a satirical conceit than a first-hand account of a Shakespearean performance, the description reflects the commonplace association between the early modern theater and the feeling of disgust—a connec-

39 Dekker, Gull’s, 27.
40 Dekker, Seven, 25.
tion still active over half a century later. Some have even speculated that the growth of private theaters in London is explained by their lack of odor relative to public playhouses. In *Jack Drum's Entertainment*, a 1599 play written by John Marston, one of Shakespeare’s literary rivals, a character describes the playgoers at a private performance relative to a public venue: “A man shall nor be choakte with the stench of Garlice, nor be pasted / To the barmy Jacket of a Beer-brewer…Tis a good gentle audience.”

Attending an early performance of *Macbeth* in early modern London promised a similar experience. Adding to the general sense of disgust evoked from the permanent odors and filth of the theater, was the “special effect” used to produce the “thunder and lightning” that famously began a performance of *Macbeth*. Produced by the squib’s noxious detonation of animal waste and sulfurous powder, the resulting odor would have overwhelmed even the most stench-hardened theatergoer. Doubtless, between the overall stench of the theater and the explosive odor of the squib, every audience member would begin the experience of *Macbeth* in a state of disgust induced by odors, proximity to unclean and unwashed individuals, and the damp air.

What influence did this emotional state have on the audience’s reaction to the performance? If we are to believe Harris’s phenomenological account of the smell of *Macbeth*, the lingering smell of gunpowder was the most salient feature to most, transporting them through olfaction to consider a host of religious and political referents, from the recent Gunpowder Plot to Catholic rites and rituals. More importantly, however, was

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41 Gould, 161.
42 Quoted in Gurr, 259.
that the sense of disgust induced in the audience: a reaction that occurred before any conscious deliberation could even bring to mind century-old plots and religious disputes.

This sense of disgust would almost certainly increase the severity of their moral judgments as they viewed the play. The link between disgust and moral judgment was tested in a recent study conducted by social psychologists Jonathan Haidt and Simone Schnall. They demonstrated that feelings of disgust induced by odor increase the severity of moral judgments among participants, whether they perceived the effect or not. In their study, Haidt and Schnall arranged to have students respond to several vignettes related to moral judgments, involving scenarios like sexual relationships between cousins and the ethics of driving versus walking to work. The condition of the testing room varied, however, as Haidt and Schnall applied a commercially available “fart spray” to a waste basket hidden near the participants. Like twentieth century squibs, the spray unleashed a foul blend of hydrogen sulfide and ammonia—two odors commonly produced by flatulence.43 As expected, participants exposed to the spray judged each story as more morally transgressive than did the control group exposed to no odor at all, demonstrating that moral judgments are influenced by disgust even without a direct causal link between the source of disgust and the moral offense. These judgments, automatic and instantaneous, provide an analogy to how early modern audiences might have made moral judgments following exposure to squibs before a performance of \textit{Macbeth}. Even if they did not know it, early modern audiences would judge moral violation in \textit{Macbeth} more harshly than normal.

\footnote{Haidt & Schnall, 1097-1098.}
Embodied Disgust

If early modern audiences experienced *Macbeth* in a pre-induced state of disgust and heightened moral judgment as I claim, how did this affect their experience of the play? Following Rozin’s stages of disgust, their sense of physical disgust over their environment was shaped by the playwright into an anxiety over the moral and spiritual corruption of Macbeth’s crimes. One aspect of disgust, in particular, was probably felt with great salience by an early modern audience: the conflation of physical and moral defilement.

Consumed with guilt following the murder of King Duncan, Macbeth examines his hands and asks:

What hands are here? Ha: they pluck out mine eyes.
Will all great Neptune’s ocean wash this blood
Clean from my hand? No, this hand will rather
The multitudinous seas incarnadine,
Making the green one red. (2.2.57-61)

The frequent presence of blood in *Macbeth* should not lead us to pass over such an odd reaction to his act of murder. Earlier in the scene, Lady Macbeth had instructed him to “Go get some water, / And wash this filthy witness from your hand.” (2.2.44-45) But Macbeth’s response imagines his murder as leaving an irremovable mark on his body—a literal stain of guilt. This stain not only resists purification, but is so virulent in his mind that it would spread to anything that tries to cleanse it.
Why would Macbeth imagine murder as a crime of defilement? Despite his wife’s assurance that “A little water clears us of this deed,” (2.2.65) Macbeth conceives of his crime primary as one against moral purity. “For Banquo’s issue have I filed my mind,” (3.1.66) he asserts in frustration over the witches’ prophecy of his solitary lineage. Macbeth’s description of his blood’s effect on the ocean relates to what psychologists describe as a “negativity bias,” the ability of contaminated objects, no matter how small, to pollution the positive, no matter how large. This predisposition, summarized best by the Russian adage, “A spoonful of tar can spoil a barrel of honey, but a spoonful of honey does nothing for a barrel of tar,” reveals Macbeth’s attitude of moral disgust toward his own act of murder. His crime is an unclean act, made literal by the playwright.

Like Macbeth, his wife is eventually drawn to madness from the murder of Duncan. In her incoherence, a servingwoman relates Lady Macbeth’s recent behavior to a doctor: “It is an accustomed action with her, to seem thus washing her hands. I have known her continue in this a quarter of an hour.” (5.1.25-27) Like Macbeth, defilement from Duncan’s murder is imagined as a permanent stain of blood on her hands:

Out, damned spot. Out, I say! – One, two – why then, ‘tis time to do’t. –

Hell is murky. – Fie my lord, fie. A soldier, and afeard? Yet who would have thought the old man to have had so much blood in him.

...

The Thane of Fife had a wife. Where is she now? – What will these hands ne’er be clean? (5.1.31-38)

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44 Rozin & Royzman, 296-297.
The stain, however, is not confined to its visual presence, Lady Macbeth also notes “the smell of the blood, still. All the perfumes of Arabia will not sweeten this little hand.” (5.1.44-45) Odor and moral violation are a frequent combination in Shakespeare. In addition to the odor of regicide mentioned earlier in *Julius Caesar*, *King John* also relates treason to stench: in the first act, Salisbury demands, “Away with me, all you whose souls abhor / The uncleanly savours of a slaughter-house; / For I am stifled with this smell of sin” (4.3.110-12). And yet why would Macbeth and his wife want so desperately to wash their hands, both figuratively and literally, of the crime? In this, Shakespeare seems to have had an intuitive sense of the relationship between disgust and moral judgment: they feel a need to purify themselves after their act of murder.

In a 2006 study, the psychologists Chen-Bo Zhong and Katie Liljenquist tested the psychological relationship between bodily and moral cleansing. Participants in the experiment were asked to recall an ethical or unethical action from their past and to describe the feelings and emotions they experienced. They were then prompted to complete word fragments, including three fragments that could be completed to form cleansing-related words: W _ _ H, S H _ _ E R, and S _ _ P (wash/wish, shower/shaker, and soap/soup). The group that recalled an unethical action completed the fragments with cleansing-related terms more often, suggesting that unethical behavior increases the accessibility of cleansing-related concepts.45

The researchers conducted two follow-up studies to determine whether this accessibility was a result of the participants’ urge to cleanse their bodies when their moral self-image was threatened. Using the same recall task from the earlier study, partici-

45 Zhong, 258.
pants were then instructed to hand-copy a first-person short story that described either an ethical action (helping a coworker) or an unethical action (sabotaging a coworker). Following the transcription, participants rated the desirability of various household products. Cleansing products, such as soap, toothpaste, disinfectants, and detergent, were rated as more desirable by copiers of the unethical story, with no difference for those that copied the ethical story. Following the recall task in the third study, participants were offered either a pencil or an antiseptic wipe--gifts that were previously verified to be equally desirable under control conditions. Participants that recalled an unethical deed chose the wipe with much greater frequency (75% of the time) than those in the ethical group (37.5% of the time). From these three studies, Zhong concluded that exposure to unethical or immoral behavior “poses a moral threat and stimulates a need for physical cleansing.” The study reflected the actions in Macbeth so completely that Zhong and his colleagues named this phenomenon the “Macbeth effect.”

The problem for Macbeth, however, is that unlike Zhong’s study, there is nothing that will clear them of their deeds. In the realm of moral disgust, contamination often follows the logic of “once on, always on.” This attitude is assumed by Malcolm, when, regarding Macbeth, he states that “Now does he feel / His secret murders sticking on his hands.” (5.2.17-18) On both sides, violations of purity are not easily absolved.

Feeling Crimes

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46 Ostensibly about handwriting as related to personality.
47 ibid., 1452.
48 Sherman, Haidt, and Cohen, 22.
Given the close alignment between *Macbeth*'s acts of moral and physical contamination and contemporary empirical research into the emotion of disgust, it is likely that much of the enduring emotional resonance of *Macbeth* is felt with equal weight by a contemporary audience. Early modern audiences may have experienced these judgments more severely than a contemporary one, since disgust was evoked by both the performance space as well as the language of the play. However, despite the fact that disgust is a universal human emotion, the sources of disgust are not. There is at least one aspect of disgust that is lost on most contemporary audiences: spiritual violation.

To a contemporary audience, the murder of King Duncan is described in strange terms. Immediately after discovering Duncan’s murdered body, Macduff informs Macbeth and Lennox that:

> Most sacrilegious murder hath broke ope
> The Lord’s anointed temple, and stole thence
> The life o’ the building. (2.3.66-68)

Likewise, Macbeth earlier resisted his impulse to murder the king, since Duncan was “clear” in his office. Macbeth even imagines Duncan protected by the forces of purity, angels and pity as “a naked newborn babe.” (1.7.19-21) Why is the morality of Duncan’s murder described in the language of purity? And furthermore, why are Macbeth’s crimes treated as polluting acts that consistently invoke the language of purification and purgation?

The answer lies in the way that moral codes that defined violations related to the state, especially regicide, were thought of in early modern society. Unlike most contem-
porary secular nations, where the hierarchical organization of the state is conceived in mostly nonreligious terms, early modern society regarded kingship as a position that was appointed directly by God. Thus, any violation of the hierarchy was not only a crime against society, but against God himself. In James I’s own *The True Law of Free Monarchies*, he states that “Monarchy is the true pattern of divinity...the lineal succession of crowns being begun among the people of God.”49 This divine configuration of the state marks Macbeth’s act of regicide as a spiritual violation as much as a political crime. Duncan was the life of the temple in a much more literal way than a contemporary audience can understand. How do we begin to attempt to understand how an early modern audience might have felt witnessing this staged act of spiritual violation?

As the anthropologist Richard A. Shweder has proposed, cultures utilize three different ethics in approaching and resolving moral dilemmas:

1. The ethics of Autonomy: Individual freedom/rights violations. In these cases an action is wrong because it directly hurts another person, or infringes upon his/her rights or freedoms as an individual. To decide if an action is wrong, you think about things like harm, rights, justice, freedom, fairness, individualism, and the importance of individual choice and liberty.

2. The ethics of Community: Community/hierarchy violations. In these cases an action is wrong because a person fails to carry out his or her duties within a community, or to the social hierarchy within the community. To decide if an action is wrong, you think about things like duty, role-

obligation, respect for authority, loyalty, group honor, interdependence, and the preservation of the community.

3. The ethics of Divinity: Divinity/purity violations. In these cases a person disrespects the sacredness of God, or causes impurity or degradation to himself/herself, or to others. To decide if an action is wrong, you think about things like sin, the natural order of things, sanctity, and the protection of the soul or the world from degradation and spiritual defilement.50

A contemporary audience would see Macbeth’s crimes primary through the ethics of autonomy and community. However, since early modern culture regarded kingship as divinely ordained, we should consider that Macbeth’s violation is in the realm of the ethics of divinity.

The psychologist Jonathan Haidt, Paul Rozin, and others have studied the “negative” emotions associated with each of these violations. His team determined that each violation had a corresponding emotion: anger with autonomy, contempt with community, and disgust with divinity.51 Subjects across several cultures performed tasks ranging from associating faces with emotional reactions to completing surveys assessing the valence of a particular moral violation. Cultures with strong religious notions of purity, such as Hindu Indians, considered many more violations in spiritual terms than did their American participants. If their results are accurate, contemporary readers should take the same approach to understanding early modern society.

50 Shweder, 28-30.
Purity violations can be seen throughout *Macbeth*, where criminals are regarded not simply as a threat to social stability, but as an outgroup that defiles and pollutes the body politic. No characters represent this threat as greatly as the witches that prophesy Macbeth’s reign. Unlike Macbeth, who Malcolm imagines can be purged from the “sickly weal,” the witches evoke a much deeper anxiety about purity. The witches are strongly associated with core disgust, especially the protection against contamination from animal products. The witches are shown returning from “killing swine” in one scene, and in their famous spell, the “poison’d entrails” of animals are combined to form a magical potion: toad, venom, fenny snake, newt, frog, bat, dog, adder, worm, lizard, howlet, dragon, wolf, shark, goat, ewe, and tiger are all included in their brew.  

Disgust easily transitions from core aversion toward animal parts to moral opposition to marginalized outgroups, demonstrated in the “pathways of disgust” table in the previous chapter. This tendency leads cultures to avoid groups that are believed to carry a risk of disease. In this way, disgust acts as a kind of “behavioral immune system” that regulates membership in groups around the exclusion of the foreign and strange, especially in their violation of norms around cleanliness, food preparation, and sexuality.  

Proponents of this view argue that during our evolutionary development, the avoidance of unfamiliar groups (and their pathogens) represented a benefit to group survival. Of course, this useful avoidance mechanism now gives societies a tendency to unjustly subjugate groups that are different.

It is no surprise, then, that the witches add to their collection of animal parts the "liver of blaspheming Jew.../ Nose of Turk, and Tartar’s lips, /Finger of birth-strangled

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52 Schaller & Duncan, 294-295.
The witches represent a liminal space between core disgust violations and disgust at marginalized outgroups, both animalistic and a foreign presence outside civilization. “Infected be the air whereupon they ride” (4.1.38) notes a credulous Macbeth, and they threaten to infect the entire Scottish landscape. Adding to the witches’ status outside the organic political body is their association with mutilated body parts. “Here I have a pilot’s thumb,” (1.3.29) exclaims one of the witches. It is also implied that they have gathered around the battlefield at the beginning of Macbeth to gather the severed limbs of soldiers.

Morality in Macbeth depends on the boundaries between what can and cannot be reincorporated into the body politic. The corruption of the body and the corruption of the state were nearly identical concepts in early modern society. The notion of a corrupt body politic was a literal concept, since the state and its subjects were considered analogous to a human body, not just in metaphor, but in the exact parallels between the parts and functions of the corpus politicum. The organic metaphor of the state is referenced frequently in Macbeth, especially when Scotland is threatened by an “outside” threat. For instance, Malcolm describes Scotland as suffering physical punishment under Macbeth’s tyrannical reign:

I think our country sinks beneath the yoke.

It weeps, it bleeds, and each new day a gash

Is added to her wounds. (4.3.39-41)

A wounded state is an image of anxiety for both sides, and Macbeth expresses his concern that the body politic demands blood for blood: “Blood hath been shed ere now, I'

53 Harris points to innumerable examples of this in his Foreign Bodies and the Body Politic.

48
olden time, / Ere human statute purged the gentle weal.” (3.4.78-79) Late in the play, Macbeth characterizes the state as requiring medical attention and purgation as the invading English army approaching his battlement:

Meet we the med’cine of this sickly weal,
And with him, pour we in our country’s purge
Each drop of us. (5.2.27-29)

Shakespeare had used the language of physical purgation before to describe political acts. In 2 King Henry VI, after Suffolk has been condemned for the death of Duke Humphrey, he is described as a pollution that threatens the body politic: “He shall not breathe infection in this air / But three days longer, on the pain of death” (3.2.287-88). The connection between purgation and the state was not exclusive to Shakespeare. The playwright John Marston provides an even more literal conflation of the body politic and disgust in Antonio’s Revenge:

Piero. But on the sudden straight I’ll stand amazed,
And fall in exclamations of thy virtues.
Str. Applaud my agonies and penitence.
Piero. Thy honest stomach that could not digest
The crudities of murder; but, surcharged,
Vomited’st them up in Christian piety. ⁵⁴

Later in the play, Marston makes the link even more explicit by drawing a connection between society’s rejection of a ruler and purgation:

Pandulpho: And I do find the citizens grown sick

⁵⁴ Marston, 2.5.27-32.
With swallowing the bloody crudities

Of black Piero’s acts; they fain would cast

And vomit him from off their government.\textsuperscript{55}

For a modern audience, the combination of effluvia, purgation, and regicide seems arbitrary, but in early modern society, the connection would have felt like a natural extension of their beliefs about acts of spiritual violation within society.

\textbf{Past and Present}

The centrality of disgust in \textit{Macbeth} presents both problems and opportunities for a study of the play across history. It depicts themes that are both universally understood and culturally specific. On a general level, any audience can feel the psychological effect of disgust, purification, and contamination. But outside of the playhouse in early modern London, we can no longer feel the deep cultural specificity of spiritual disgust directed at political crimes.

Still, the utilization of empirical psychological research allows us to map the limits of our understanding of the early modern subjective experience in a way that complements the more deliberate linguistic reflections of historical phenomenology. The moral ecology of \textit{Macbeth} at the Globe is not the same as a contemporary staging of the same play, though it shares a family resemblances that should not be dismissed by the demand to historicize. Only with the combined knowledge of local emotional descriptions

\textsuperscript{55} Marston, 5.3.17-20.
and empirical studies of how our emotional lives are shared across time, can we begin to sense the interior world of early modern subjects.
Conclusion

Something is rotten in the two cultures. Fifty years after C.P. Snow published *The Two Cultures*, describing the rift between the humanities and sciences, each side still regards the other with a mixture of derision and contempt. Scientists have no interest in making a case for the greater implication of their work and literary critics continue to rely on intellectual systems more valuable in their interpretive power than their veracity. Snow’s call for a “third culture” to bridge the gap between the two disciplines was never taken in good faith by either side, and even when E.O. Wilson published *Consilience* in 1998, his push for interdisciplinary understanding was met more with petty hostility than academic engagement.

My hope for this thesis was to lay a rough foundation for how to reconcile the study of literature and cultural history with scientific research. I have found that psychological research can compliment, not dismiss, the material world of the historical archive. There is a wealth of data to be found in both, and only a combined approach can come near to explaining the persistence of social institutions, ideological views, and moral beliefs that overflow historical and geographical barriers.

Though I have concentrated in this thesis on the value of scientific research for literature and theatrical performance, I am confident that the humanities have as much to offer the sciences. In my discussion of *Macbeth*, I relied on the fact that the figurative
language invoked by Shakespeare influenced the interior experiences of early modern subjects, especially their emotions and moral judgments. More research is necessary to understand how language shapes our emotional perceptions and moral judgments, and literary scholars should not wait for scientists to undertake such a study. In the future, critics should investigate for themselves why figurative language has an almost mystical power to evoke disgust, anger, pleasure, and delight in audiences across all cultures. They will find that it is not through culture alone.
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