

**Renaissance Truth and Method:
English Poetics and the Emergence of the New Science**

By

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*Dieses Fragen erweckt immer den Anschein, als sei
es ein Besserwissenwollen gegenüber den Wissenschaften.
»Besser« - das meint immer einen Gradunterschied
in ein und demselben Bereich. Wir stehen aber mit unserer
Frage außerhalb der Wissenschaften, und das Wissen,
dass unsere Frage anstrebt, ist nicht
besser und nicht schlechter – sondern ganz anders.
-Heidegger, Die Frage nach dem Ding*

Introduction

Recently, critics and historians have increasingly emphasized a supposed overlap between the realms of poetry and science in the early modern period. These critics tend to see early modern science and poetry interacting in the following ways. In the first version, they notice how poetry occasionally borrows the image resources of the sciences for its own world-making. Milton's Raphael, for instance, recalls the discoveries of Copernicus and Galileo as he counsels Adam to "be lowly wise." He wonders, "What if the Sun/ Be Centre to the world, and as other Stars/ By his attractive virtue and their own/ Incited, dance about him various rounds?" (VIII.122-125).¹ Even if this Copernican version of the world were the case, Raphael argues, it shouldn't concern Adam. In the second version, poetry adopts the epistemological claims of the sciences, becoming empirical experiments. According to Elizabeth Spiller, Sir Philip Sidney's poetics articulates a theory of poetry as "a kind of experiment to the extent that it abstracts the particular into the universal truth".² Finally, a third version of this relationship is that in the rare instances when science borrows from poetry, it does so only to explain its unique and often complex worldview. Metaphor and poetic citation in the sciences has a merely heuristic function. Copernicus cites

¹ "Paradise Lost," in *John Milton: Complete Poems and Major Prose*, ed. Merrit Y. Hughes (New York: The Odyssey Press, 1957), 365. See, for instance, Ryan J. Stark, "Cold Styles: On Milton's Critiques of Frigid Rhetoric in Paradise Lost." *Milton Quarterly* 37.1 (2003): 21-30.

² *Science, Reading, and Renaissance Literature: The Art of Making Knowledge 1580-1670* (Cambridge: Cambridge University Press, 2004), 38.

Virgil, “Forth from the harbor we sail, and the land and the cities slip backward” (*Aeneid* 3.72), to show how apparent motion works.³ He comments on this passage, “For when a ship is floating calmly along, the sailors see its motion mirrored in everything outside, while on the other hand they suppose that they are stationary, together with everything on board. In the same way, the motion of the earth can unquestionably produce the impression that the entire universe is rotating.” In each version, poetry is subordinated to science, becoming in the third merely a tool for scientific understanding and insight. These narratives of the relationship between early modern science and poetry deprive poetry of its important place in early modern intellectual, cultural, and political life, and suggest that poetry is not a way of understanding the world, rather that it is only ancillary to a more primary scientific understanding.

By looking at the works of William Gilbert, Sir Philip Sidney, and William Shakespeare this dissertation attempts to restore to our understanding of the early modern period poetry’s primacy as a way of understanding and negotiating the world—an understanding, I hope to show, that is in fact prior to any kind of scientific thinking, and an understanding upon which science depends. I argue that poetry enables a kind of dynamic thinking, one which allows a person to attend to contradictions without having to settle them, to negotiate competing yet seemingly equally valid claims, the ability to think through a phenomenon in its numerous permutations, and the potential to reimagine the world and its relations. Science merely confirms that the world is as we think it is, but poetry allows us to rethink the world.

If we better understand the more meaningful distinctions between early modern science and poetry, we can also begin to better and more justly assess what they share. The poetic faculty, which I am calling here dynamic thinking, is just one such shared resource—shared

³ *On the Revolutions of the Heavenly Spheres*, ed. Stephen Hawking (Philadelphia: Running Press, 2002): 16.

because it is prior to scientific understanding. Dynamic thinking is a kind of circumspection that allows a person to understand a given situation and its range of possibilities for action, and finally to act on those possibilities. When we see scientific writing using literary metaphor, the function is not just heuristic, not just a device to help readers better understand the problem. Especially in the early modern period, as I will argue, a shift needed to occur for people to be able to think of their world as possibly subject to scientific methodology. This shift occurs through the world-making possibilities of poetry, a dynamic thinking that allows new connections to be made, and new worlds to be imagined. The scientific world is as much a product of the poetic imagination as the religious or magical worlds, even if these projections, finally, entail radically different assumptions and conclusions about the world.

II. The Historiographical Problem

Although many recent critics and historians see their work as revising a categorical mistake—that is, the early modern distinction between poetry and science—the conviction that these two overlapped significantly in the period has been around for many years. In concluding his work on the structure of scientific revolutions, Thomas Kuhn wonders why progress should be such an essential feature of the sciences and not of the arts. He acknowledges that at least part of the problem is semantic; he has chosen to call “sciences” these fields that do seem to progress.⁴ Yet, he acknowledges, the problem is not merely categorical. Progress had once been a feature of all the arts and sciences, painting most importantly. Kuhn writes,

Critics and historians, like Pliny and Vasari, then recorded with veneration the series of inventions from foreshortening through chiaroscuro that had made possible successively more perfect representations of nature. But these are also the years, particularly during the Renaissance, when little cleavage was felt between the sciences and the arts. Leonardo was only one of many men who

⁴ *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1996), 160.

passed freely back and forth between fields that only later became categorically distinct.⁵

At one point, the arts and sciences had been nearly identical, according to Kuhn, allowing various figures to navigate easily between the two often without registering a difference. At some point, however, the difference was felt and profoundly. For modern critics and historians, the profundity of that difference rent apart what was once a seamless tapestry, and the history of that sundering has been occluded by the primacy of scientific thinking. Our job, according to Howard Marchitello, a more recent critic, is “to locate both early modern science and early modern literature more precisely within the rich context of early modern culture without extracting either one or the other and privileging it in a created, but illusory, isolation”.⁶ Marchitello, hoping to represent the past more accurately, getting to the facts of the matter, urges us to see how science and literature are inextricably linked in the period.

The vast unity of culture is what allows us to think about the reciprocities between poetics and science according to many recent historians and critics. Marchitello contends that “the telling of new narratives about the unity of *culture-science*” should be one of our main goals. The story of this culture unity can be told in a variety of ways. For Marjorie Garber, it is the homology between artistic and scientific practices which reveals that, “These arts were sciences; or these sciences were arts”.⁷ She writes, “Artists try things out, often in a variety of media. They repeat processes, they test materials, they prize their tools. They work long hours at a stretch. Like laboratory scientists, they often must work in their studios because the size, style, or situated nature of their work precludes their taking it home”.⁸ These practices, according to

⁵ Ibid., 161.

⁶ *The Machine in the Text* (Oxford, Oxford University Press, 2011), 12 italics mine.

⁷ *Patronizing the Arts*. (Princeton: Princeton University Press, 2008), 141.

⁸ Ibid.

Garber, Caroline Jones, and Peter Galison, reveal the extent to which both “regimes of knowledge” are “embedded in, but also constitutive of, the broader cultures they inhabit”.⁹ The logic of this argument is that if the practice shows up in one location, attached with certain meanings and values, then surely, when it appears in another location at roughly the same period, it carries the same or similar meanings and values. Science and art, then, can be revealed to be merely products of the same cultural forces, which they, in turn, also produce. Culture, in this way, works dialectically, producing new forms, and then itself being changed by those forms.

In the introduction to the aptly titled collection *One Culture: Essays in Science and Literature*, George Levine contends,

It is one culture, then, in two senses: first, in that what happens in science matters inevitably to what happens everywhere else, literature included; and second, in that it is possible and fruitful to understand how literature and science are mutually shaped by their participation in the culture at large—in the intellectual, moral, aesthetic, social, economic, and political communities which both generate and take their shape from them.¹⁰ (5-6)

While science and literature may not necessarily be the same, they reflect and shape each other because they matter to each other—in so far as all human activity matters to other forms of human activity. They are unified, Levine continues, “because they draw mutually on one culture, from the same sources, and they work out in different languages the same project”.¹¹ That project is the production of knowledge, according to Garber, Elizabeth Spiller, and Henry Turner, because, as Garber avers, “The word ‘science’ comes the Latin word for ‘knowledge’ (*scientia*), and was not distinguished from *art* in English until the late seventeenth century”.¹² The production of knowledge, whether political, ethical, historical, literary, philosophical,

⁹ Ibid.

¹⁰ *One Culture: Essays in Science and Literature*, (Madison: University of Wisconsin Press, 1987), 5-6.

¹¹ Ibid., 7.

¹² Garber, *Patronizing*, 140.

theological, or natural is the shared aim of both literature and science, even if the particulars are different. Moreover, science is as culturally imbued as literature because it is based in language. Levine, citing the work of noted historian and philosopher of science Mary Hesse, contends that because no natural scientific data are “detachable from theory,” and because theory is conditioned by imaginative, and therefore ‘cultural’ constructions, “the facts themselves have to be reconstructed in the light of interpretation”.¹³ Any meaning in the pronouncements of the natural sciences is derived not from correspondence to facts but from “theoretical coherence”.¹⁴ Theory is language-based, “irreducibly metaphorical and inexact,” and thus the whole ideal of scientific objectivity is questionable.¹⁵ When the objective and the subjective realms merge in this way, then the traditional distinctions between science and literature also collapse. Everything becomes culture.¹⁶

Culture, then, is the unifying force of these seemingly disparate “regimes” and “practices.” Without culture, and without the human beings at the center of it, neither the arts nor the sciences would have any meaning. Although culture has served us well as both a critical category, and as a way of thinking about how seemingly disparate practices interrelate, it risks meaninglessness, and, even worse, idealism, as Stuart Hall warns.¹⁷ This ideality, because it conceives of all human activity as culture, culminates in the assumption that the only difference

¹³ Levine, *One Culture*, 16.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ This is a slightly more extreme version of Paul Feyerabend’s observation that “On closer analysis we even find that science knows no ‘bare facts’ at all but that the ‘facts’ that enter our knowledge are already viewed in a certain way and are, therefore, essentially ideational. This being the case, the history of science will be as complex, chaotic, full of mistakes, and entertaining as the ideas it contains, and these ideas in turn will be as complex, chaotic, full of mistakes, and entertaining as are the minds of those who invented them” (19). *Against Method* (Thetford: Verso Books, 1984).

¹⁷ Stuart Hall, “Marxism and Culture,” *Radical History Review* 18 (1978): 5-14.

between forms is one of valuation. Culture, as “the realization of the highest values through the maintenance of the highest goods of man,” cannot conceive of meaningful differences in human activity.¹⁸ Even when it attempts to attend to the material and historical conditions of possibility of specific forms, the meaning of those conditions, as we can see in the Garber quotation above, is reduced to general homologies. The only *real* differences are then imagined to be the illusory values—rationality, order, mathematization, etc.—that are superimposed over those activities. This was Raymond Williams’ objection to a vulgar notion of culture that had seeped into Marxist analysis. He contends,

Instead of making cultural history material, which was the next radical move, it was made dependent, secondary, ‘superstructural’: a realm of ‘mere’ ideas, beliefs, arts, customs, determined by the basic material history. What matters here is not only the element of reduction; it is the reproduction, in an altered form, of the separation of ‘culture’ from material social life, which had been the dominant tendency in idealist cultural thought. Thus, the full possibilities of the concept of culture as a constitutive social process, creating specific and different ‘ways of life’, which could have been remarkably deepened by the emphasis on a material social process, were for a long time missed, and were often in practice superseded by an abstracting unilinear universalism.¹⁹

Of course, the desire to conceive of culture as an “abstract[ed] unilinear universalism” is an attempt to understand how the often competing and seemingly incommensurable aspects of human existence cohere into a singular and shared human history and destiny. In the 20th century, when we can speak of *world wars*, the desire to understand how history can lead to events of such singularity as the holocaust, and the bombings of Hiroshima and Nagasaki, epoch-

¹⁸ This is Heidegger’s formulation in the essay, “Die Zeit des Weltbildes” in *Holzwege* (Frankfurt am Main: Vittorio Klostermann, 2003): 75-76, translation mine. Raymond Williams confirms this link between culture and values when he notes, “The insistent rationality which explored and informed all the stages and difficulties of this process [of civilization] came to an effective stop at the point where civilization could be said to have been achieved. Indeed, all that could be rationally projected was the extension of these achieved values” *Marxism and Literature*, (Oxford: Oxford University Press, 2003): 14. Here, culture is the civilizing mechanism.

¹⁹ Ibid.

making events, seems almost to beg for an unilinear universalism. However, the remarkable generality of any culture—that is, that a culture must be so large to contain all its divergent formations—must not allow us to overgeneralize the form and content of any particular formation. We risk meaninglessness when we too casually equate one cultural formation with another because of their seemingly shared traditions and goals. Cultural forms must be grasped and understood in their specificity for meaningful historical analysis and interpretation to be performed.

III. Methodology

My hermeneutic analysis, rather than completely denying ‘culture’ or ‘cultural history’ their statuses as meaningful critical tools, insists on a more nuanced understanding of culture, and resists collapsing important and meaningful distinctions. Rather than telling a narrative of an unilinear universalism, my methodology will rather try to understand how different formations might interact and yet remain in constant tension. How might they share certain resources, understandings, and values, and yet still move in separate realms and in forcefully opposite directions? As critics and scholars, our most important task is not writing the narrative of the unity of culture-science, but rather in understanding, as best we can, how seemingly unified historical events and periods can develop out of so much tension.

When most scholars try to work through the meaning of historically competing interpretive horizons, they do so under the aegises of knowledge, power, and values. Take, for example, Albanese’s summary of ethnographic work on the conflict between ‘primitive’ and ‘Western’ knowledges. She writes,

As Johannes Fabian, James Clifford, and others argue, European fieldworkers have called primitive those cultures—and by extension those knowledges—that have been subjugated or objectified in the wake of Western imperialism and the regimes of truth with which it is accompanied. This subjugation is not always and

immediately in material fact; in the case of traditional knowledges, for instance, it is the work of a taxonomy that validates the superior “openness,” and systematic resiliency in the face of falsification, of European epistemological claims. Thus, occultism may indeed be “primitive,” but only in the interested sense given to that term with dominant ideologies of rationality.²⁰

While designating one ‘knowledge-regime’ as ‘primitive’ certainly can and should be understood as the product of ideological prejudice, the problem here is more complex than merely a choice between two different but, at the end of the day, equally valid value structures. Albanese and the scholars she cites argue that the only real and meaningful differences between these interpretive structures are the result of a ‘taxonomic validation.’ This validation, it seems, is the result of the interest, or the value, that dominant ideologies place on rationality. Rationality, objectivity, disinterestedness, and openness become the highest values of this system, against which all other systems are measured. This critical judgment, however, seems to imply that with a simple shift in values and valuation, we could begin to see these knowledge practices as equal and possibly complementary. That is, the perceived differences between them, she argues, are more the product of hegemonic structures of valuation than anything native to their interpretive structures. If we were good, objective thinkers—that is, ironically, completely divorced from any value structures—we could live in a world that recognizes both sets of knowledge practices as equally valid, if valid in their own different ways.

The problem, of course, is that they are not equally valid; the differences between ‘primitive’ and modern European knowledge practices are more complicated than we care to admit. They could only be equally valid if they dealt with the same phenomenon in different yet complementary ways: two interpretive lenses each revealing different facets of the same phenomenon, helping one another to see what the other cannot. But herein lies the problem. The

²⁰ Denise Albanese, *New Science, New World*, (Durham: Duke University Press, 1996): 63-64.

prejudice separating these interpretive horizons is not one of mere values. It is not simply that we value one lens more than the other. Rather, the problem is in the metaphor of the lens. There are no lenses, and there is no single, unified phenomenon to which to apply them. The ‘primitive’ and the modern empirical perspectives are separated by their interpretive horizons.

The assumption that value structures are the only things separating “primitive” from modern horizons of understanding assumes that the world is phenomenally unified. This is an historical, critical, and philosophical mistake. Of course, evacuating the meaning of one set of interpretive possibilities because it does not fulfill the expectations of another set *is* a problem of ideology and values. Precisely when we use terms like primitive, occult, medieval, etc. we are often employing certain “Enlightenment taxonomies” to dismiss other interpretive horizons and possibilities. My intent here is not to suggest that values play no role, but rather that values and ideology are not the only nor the ultimate way to think about the relationships between past and present, magic and medicine, fiction and fact, art and science. Privileging values, ideology, and cultures as *the* interpretive horizon, that is, as the only ultimate and final perspective from which to understand and interpret these problems, is ahistorical, and the product of a modern prejudice. But concluding that the only differences between these interpretive horizons are incommensurable value structures also makes a fundamentally ahistorical mistake; it assumes that we can and should understand the world as phenomenally unified. This is the sense that there is only one set of given phenomena, the world, which we can view through multiple if sometimes competing, sometimes complementary interpretive modes.²¹ This view assumes that our conclusions about the world as such may be different, but fundamentally it remains the same

²¹ This is, I believe, the thought that governs the opening set of axiomata in Wittgenstein’s *Tractatu*, as well as his assertion in the preface, “What can be said at all can be said clearly; and whereof one cannot speak thereof one must be silent.” Ludwig Wittgenstein, *Tractatus logico-philosophicus*, (Frankfurt am Main: Suhrkamp Verlag, 2003): 8, translation mine.

world. This conception of the phenomenal universe is, finally, what gives modern science its apparent dominance. Because it conceives of this world as ‘objective’ rather than interested, rather than being linked fundamentally and inextricably to a world of human concern, it claims to be able to get to the phenomena as they are, rather than as how we see them through our own limited perspectives.

However, the phenomenal and interpretive unity of the world has not always been assumed. As Amos Funkenstein notes, in Aristotle’s philosophy, “the universe is thought of as a hierarchy of forms, of different qualities which characterize different regions of the universe. Aristotle’s *nature* is a ladder of *natures*.”²² The understanding of the world as phenomenally and interpretively unified is very much the product of post-Enlightenment scientific thinking. As

²² Amos Funkenstein notes that “In contrast to [the] assumption that nature could be classified according to an unequivocal order of concepts, Aristotle by no means assumed that nature was homogenous. On the contrary: the universe is thought of as a hierarchy of forms, of different qualities which characterize different regions of the universe. Aristotle’s *nature* is a ladder of *natures*. The phenomena of nature are governed by different kinds of ‘causes’ or principles. They are many and different for each segment of nature, even though their number ‘should not be increased without necessity.’ Science, too, cannot be any more uniform than its subject matter; the translation of methods from one science to another leads only to category-mistakes” Amos Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century*, (Princeton: Princeton University Press, 1985): 36. While according to Funkenstein’s description Aristotle’s insights do not approximate the phenomenological understanding, they do anticipate it. The notion of a region is fundamental to Heidegger’s concepts of understanding and interpretation. In division one of *Being and Time*, he notes that “Da-sein is always somehow directed and underway” (74). The region is that in which and toward which understanding and interpretation are directed, and it is within a region that a phenomenon as such first comes into being. In this regard, Aristotle’s notion of the “regions of the universe” and the heterogeneity of ‘scientific’ methods indicate the fundamental relationship between the phenomenon and the horizon of understanding. There may be a tendency on the part of some readers to understand “region” too literally, reaching to its Latin etymological roots. Coming from *rex, regis*, region might connote “of the king” or “in the king’s dominion,” as it certainly has in the past. This, however, is not what Heidegger’s *Gegend*, the word which “region” translates, implies. Rather, *Gegend* connotes “the surrounding area” and is related in *Being and Time* to expressions of nearness and of directionality. See part 1, chapter 22 of *Being and Time* for a further discussion of this problem. Distinguishing these senses of region will help us in part avoid the tendency to see region as being the result of a willful and arbitrary interpretation. Martin Heidegger, *Being and Time*, trans. Joan Stambaugh (Albany: State University of New York Press, 2010): 74.

Gadamer asserts, the scientific method is not concerned with how phenomena come to appear as they appear; rather, it establishes certain regularities about those phenomena. In this way, all phenomena can become subject to the same method.²³ When we assume that all phenomena are unified, then in fact we cease to be able to attend to how they come to be; we cease to be able to ask about the meaningfulness of interpretive difference, of perspective.²⁴ The assumption of interpretive and phenomenal uniformity misunderstands both the *world* of ‘primitive’ knowledge practices and the *world* of western science.

In *The Will to Power*, Nietzsche asks us to consider the relationship of the phenomenon to perspective and interpretation, and he forces us to recognize the mutual reciprocity of phenomenon and perspective. He writes, “The perspective...decides the character of the ‘appearance’! As if a world would still remain after one deducted the perspective! By doing that one would deduct relativity!” (Aph. 567).²⁵ For Nietzsche, the world appears to us in accordance with our value structures. “The apparent world” he writes, is “i.e. a world viewed according to values; ordered, selected according to values, i.e. in this case according to the viewpoint of utility

²³ Hans-Georg Gadamer, *Truth and Method*, (London: Continuum Publishing Group, 2004): 10.

²⁴ Perspective does not mean subject or subjectivity. Nietzsche dissolves the contradiction between subjectivity and objectivity in *The Will to Power*. He writes, “Against positivism, which halts at phenomena—‘There are only *facts*’—I would say: No, facts is precisely what there is not, only interpretations. We cannot establish any fact ‘in itself’: perhaps it is folly to want to do such a thing. ‘Everything is subjective,’ you say; but even this is interpretation. The ‘subject’ is not something given, it is something added and invented and projected behind what there is.—Finally, is it necessary to posit an interpreter behind the interpretation? Even this is invention, hypothesis” (Aph. 481). Rather than another name for subjectivity, perspective marks an attention to the various ways in which meaning is created, to meaningfulness. It acknowledges the horizons—subjectivity or objectivity, for instance—in which meaning might happen, but it does not attempt to reduce the possibility of meaning to one or the other horizon. Friedrich Nietzsche, *The Will to Power*, trans. Walter Kaufmann and R.J. Hollingdale, (New York: Vintage Books, 1968).

²⁵ *Ibid.*, 305.

regarding the preservation and enhancement of the power of a certain species of animal”.²⁶ But we do not have to subscribe to this belief. We can bracket Nietzsche’s legitimate concern with values and power as yet still derivative of a more fundamental concern with the nature of understanding and interpretation. Nietzsche’s comment, however, reminds us that there is not perspective prior to the phenomenon and no phenomenon without the perspective. These are inextricably and mutually constitutive. In this regard, it is meaningless to speak of an “interpretive lens,” as the phenomenon does not exist as object of various interpretive possibilities; rather the phenomenon as such is constituted by the interpretive horizon, and the horizon is made possible by the phenomenon.

For clarification, take for example the problem of epilepsy. The modern western medical practice sees epilepsy as a problem of physical and chemical structures of the brain, whereas the Hmong people understand it as the effect of the soul being stolen by a spirit, the *dab*. The ethnographer Anne Fadiman relates that the Hmong expression *quag dab peg* is usually translated by ‘epilepsy’ in English, but a more felicitous translation would be: “the spirit catches you and you fall down.” The differences in translation begin to indicate the scope of the problem. The meaning of this illness for the Hmong greatly exceeds any physical-chemical understanding, and the one cannot be reduced to the other as if it were only the cultural superstructure of a more ‘reasonable’ base. According to Fadiman, the soul of someone afflicted with *quag dab peg* can flee the body and become lost when it is frightened.²⁷ And this interpretation does not end here at a mere explanation of the ‘causes’ of the illness. Sufferers of *quag dab peg* are both ill and exalted for their illness. The Hmong people believe the affliction is simultaneously a call to

²⁶ Ibid.

²⁷ Anne Fadiman, *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures*, (New York: Farrar, Straus and Giroux, 1998): 20.

become a shaman, because their illness grants them the ability to perceive things others cannot. If we understand *quag dab peg* and epilepsy to be different names for the same phenomenon, it becomes easy to dismiss one in favor of the other as a better or *more valid* explanation. But from the perspective of validity, there are no equally valid explanations, only valid and invalid ones. Imagining *quag dab peg* and epilepsy to be the same phenomenon is neither just nor fair to either. *Quag dab peg* is clearly a phenomenon of social and spiritual *responsibilities*, whereas epilepsy is a problem of brain physics and chemistry. Responsibility is meaningless to chemistry, as science understands only material causes. These horizons are so fundamentally different as to give rise to separate phenomena. They are neither concomitant nor complementary. But a dynamic perspective, unlike a scientific or a subjective one, does not force us to choose one phenomenon over another. These phenomena—epilepsy and *quag dab peg*—can exist simultaneously without the need to reconcile them into some underlying ur-phenomenon to which all interpretations will refer and for which all interpretations might be *equally valid*. The horizons, the spiritual-social and the scientific, do not exist apart from the phenomena, but are rather inextricably linked to them. Phenomenon and horizon of understanding belong to one another; they are mutually constitutive. If we begin to understand more rigorously the phenomena and phenomenology, then we can also avoid the mistake of reducing the meaningfulness of all phenomena to relations of value and power.

My interest in phenomenology is not an attempt to further subjectivize either science or literature. Literary historians, attempting to understand the reciprocities between scientific and poetic knowledge, often begin by arguing that scientific knowledge is just as subjective—undermining scientific claims to universal validity—as poetic knowledge, thereby upending the priority of scientific knowledge in our contemporary moment. This intellectual move has a long

history in the twentieth and twenty-first centuries of helping to combat the priority of western over non-western knowledges, and it has often been wielded as a powerful weapon in political and ideological liberation. Yet, it is a move that relativizes knowledges as well, rendering often meaningless the positive contributions of different ways of understanding. Furthermore, this is a poor defense of the humanities. Claiming that science is *also* meaningless does not make our own work more compelling; instead, the effect can be paralyzing. If the sciences and the humanities are meaningless, a lay-reader might ask, then why do either at all? Neither the sciences nor the humanities can be justly understood or defended when they are used to undermine each other.²⁸ However, science studies seem to do exactly this to both science and the humanities. Levine's comments in his introduction to the *One Culture* volume rehearse just such a line of thinking. He writes,

This volume...accepts the impossibility of disinterest in any investigation and recognizes that developments in science and closely related to developments in the culture at large. Thus it builds on the assumption that science does not make "universal" statements, that its discourse is as historical as that of literature (and

²⁸ Here I am following Heidegger's reflections about the nature of culture, science, and art in his essay, "Science and Reflection." Here he writes, "In keeping with a view now prevalent, let us designate the realm in which the spiritual and creative activity of man is carried out with the name of 'culture.' As part of culture, we count science, together with its cultivation and organization. Thus science is ranked among the values which man prizes and toward which, out of a variety of motives, he directs his attention. But so long as we take science only in this cultural sense, we will never be able to gauge the scope of its essence. This is equally the case for art. Even today we readily name these two together: 'art and science.' Art also is represented as one sphere of cultural enterprise. But then we experience nothing of its essence." (155-156). As the translator notes, Heidegger does not use the word essence in the normal sense. Rather, for Heidegger, essences are indeed historical. He writes, "the reader should keep firmly in mind that for Heidegger, the *Wesen* [essence] of science—as of anything whatever—is not simply *what* science is, but rather the manner in which it pursues its course through time, the manner in which it comports itself in its enduring as present" (N. 156). The manner of pursuit and comportment change with history, change with the direction of understanding. In this case, the essences of science and art are neither universal and ahistorical nor do they depend on the values and the structures of human activity. They are neither subjective nor objective, but something else entirely. Martin Heidegger, "Science and Reflection" in *The Question Concerning Technology and Other Essays*, trans. William Lovitt, (New York: Garland Publishing, Inc., 1977).

the assumption, of course, is that literature too is historical, not universal)...Science is socially constituted; knowledge is culturally constituted. (25-26)

Because scientific knowledge is also relative to the culture from which it comes and the values of that culture, it cannot be said to make “universal” claims. Scientific knowledge, according to Levine, is as subject to history as literary knowledge, and thus one cannot have priority over the other. Like so many others, Levine reduces history to culture, casually erasing any important differences between the two terms, and also reduces the meaning of history to simply the cumulative activities of human beings. In this regard, no activity can be said to be prior to, or have any special meaning, above and beyond any other human activity. This pure subjectivication of both realms of understanding and knowledge is, for the reasons I have suggested above, a mistake.

My own method seeks to avoid this mistake. In arguing that poetic thinking is prior to scientific thinking, and perhaps prior to all kinds of thinking, I am not making a value distinction, rather a temporal and structural one. The world-making activity of poetry is needed for the scientific world-picture to take shape. This world-picture takes shape in metaphors whose metaphorical character is lost once the scientific world-picture is firmly established. My work is far less interested in taking account of the origins of that process or its completion—a process which might be as long as recorded history itself—than it is in understanding how various aspects of this picture may have taken shape, and the poetic resources that may have been used along the way. Yet, within the purview of scientific thinking, metaphors do not long remain *poetic* language. Rather, as I noted above, they are transformed into heuristic devices, used only to initiate someone into the dense and often arcane world of scientific understanding. But as *poetic* language, metaphors allow the world to be reshaped, and new constellations of

understanding to form. Both possibilities for metaphor in science remain even when one, the heuristic, comes to dominate. It is in part this distinction between the realms of the poetic and the scientific that this dissertation wants to trace, even as those realms seem to overlap and interact with one another. Although the dissertation is clearly informed by phenomenological and hermeneutic thinking, especially as articulated by Heidegger, Gadamer, and Ernesto Grassi, methodologically, the kinds of reading performed in the dissertation will depend primarily on close reading and historical analysis, with an eye toward thinking about hermeneutic understandings of horizon, interpretation, and meaning.

IV. Phenomenology in the Renaissance

Although phenomenology is a 20th century philosophical movement, I believe that we can see hints of this in the Renaissance as well. If as far back as Aristotle, thinkers were wondering about the meaning of different realms and regions, then it is likely that this continued in one form or another through the Renaissance. There is at least one pertinent example in Milton. Milton and his Eve reveal at the beginning of Book VIII of *Paradise Lost* how we might understand a seemingly self-identical phenomenon, such as the heavens, as two separate yet overlapping phenomena. When Adam asks Raphael to explain the creation and the order of the heavens, his question is motivated, as Raphael's response indicates, by the astronomical concerns of Copernicus, Brahe, Galileo and others. What Adam gets, however, is theology. Eve chooses to wait to hear the answer retold by Adam, and the conversation changes once again, metamorphosing the concerns from the natural and the theological to the matrimonial; Adam's answer is relayed from within the horizon of conjugal responsibility and the creation. While in each case, the practice and perhaps even the structures of explanation remain the same or similar, what is understood in the moment of explanation creates, in fact, different phenomena.

Explanation is not a cultural linchpin that erases the differences between these moments; rather, explanation is transformed in each moment by the horizons of understanding of the different interlocutors, so that it does not remain explanation in either case.

Raphael's response to Adam acknowledges the natural philosophical origins of Adam's question by coopting and transforming the language of astronomy. Adam wonders why the earth should be at the center of the universe when this violates the principle of frugality that seems so reasonable (VIII.15-25). While "reasoning" about the motions of the universe, Adam asks, "How Nature wise and frugal could commit/Such disproportions" (VIII.25-27). Raphael responds to Adam and acknowledges the concerns that motivate his questions, but he also asks Adam and the poem's readers to consider carefully what sense this question has in the context. Raphael's response is hermeneutic in nature because he wants Adam to consider the meaning of this question when it is directed toward the Book of God and toward the creation. He says,

To ask or search I blame thee not, for Heav'n
Is as the Book of God before thee set,
Wherein to read his wond'rous Works, and learn
His Seasons, Hours, or Days, or Months, or Years:
This to attain, whether Heav'n move or Earth,
Imports not, if thou reck'n right (VIII.66-71)

Raphael distinguishes between two potential reasons for asking the question, either to learn about the Works of God, or to learn about the work of nature. One concerns Adam's being, the other does not. By invoking Ecclesiastes 3 in the phrase "His Seasons," Raphael reminds us that similar seeming phenomena—the motions of the planets and the motions of the heavens—are different because they arise out of different horizons of understanding. A concern with the motions of the planets—motions which Adam has "compute[d]" (VIII.16)—is a concern with the mere material existence of things. To this concern, Raphael rejoins that those material concerns do not import; they make no difference. But beyond merely saying that these things do not

matter within the larger concerns of Adam's duties to God, Raphael provides Adam with a way of thinking about counting—computing—that does matter when he says, “if thou reck'n right.” The English ‘reckoning’ means, “to count,” a sense that was current at the writing of the poem.²⁹ By introducing new language for counting in this moment, Raphael is not merely saying that Adam is concerned with the wrong things; instead, a different kind of counting is required to read and understand the motions of the heavens, reckoning, instead of the computing that required to read the book of nature. While it may seem that these are just two different names and operations for the same phenomenon—perhaps merely the result of valuing reason over “being lowly wise” (VIII.173)—Raphael in fact teaches us how to begin to see these are completely different if simultaneous phenomena. In this, Raphael provides an alternative and more felicitous way of thinking about the motions of the heavens and the Book of God, one that accords more justly with Adam's own godly nature, and one that articulates its phenomena within the horizon of creation.

Eve makes a similar move when she chooses not to listen to Raphael explain creation, but rather to hear it from Adam. Eve's desire to hear Adam relay his conversation with Raphael to her transforms the discussion from one of reasonable, dispassionate, and objective material explanation to an interaction that reaffirms their wedded bliss, and serves as a reminder of their own createdness, that they were created for one another. After Adam inquires of Raphael about the movement of the heavenly spheres, Eve retires to her nursery. The poet-speaker says of her,

Yet she went not, as not with such discourse
 Delighted, or not capable her ear
 Of what was high: such pleasure she reserv'd,
Adam relating, she sole Auditress;

²⁹ "reckon, v.". *OED Online*. March 2017. Oxford University Press.
<http://www.oed.com/view/Entry/159588> (accessed June 07, 2017).

Her Husband the Relator she preferr'd
 Before the Angel, and of him to ask
 Chose rather: hee, she knew, would intermix
 Grateful digressions, and solve high dispute
 With conjugal Caresses, from his lip
 Not words alone pleas'd her. O when meet now
 Such pairs in Love and mutual Honor join'd? (VIII.48-59)

Eve, according to the poet-speaker, is both pleased by and capable of understanding such lofty discourse. It is not her ability that prevents her from listening; rather for Eve such discourse can have, and perhaps should have, other meanings. In this case, she chooses Adam over Raphael because Adam weaves “Grateful digressions”—grateful, perhaps, because they make manifest their gratitude to God—into his discourse. “High dispute” instead of becoming the object of artful, logical, and rigorous debate, is here resolved by “conjugal Caresses” (VIII.57).

Explanation here moves into a different horizon, being drawn from the realm of reason, material, and even theological truth, to the horizon of the import of their marriage. Explanation doesn't just gain new meaning, it becomes, instead, something else entirely. Precisely this is what Raphael warns Adam to be careful of when he tells him to “be lowly wise:/ Think only what concerns thee and thy being” (VIII.174). The computing Adam, when he does not “reck'n right” risks confusing the Book of God and creation with the motion of the planets, leveling off and destroying key regions of meaning, nature, and being. Eve, in this moment, is closer to God and her creation than Adam because her thinking and her actions preserve what concerns her and her being. From this example, we can see how a kind of “phenomenological” thinking was available to thinkers in the Renaissance. Theological concerns articulated various spheres of meaning even within the unity of God's purpose. Instead of being united in one holy law and historical purpose, as the reference to Ecclesiastes demonstrates, God's purposes are timely, and each action has its

own moment. Thus, making distinctions between different spheres of meaning and different phenomena was as possible to a person in the Renaissance as it is to us now.

V. Chapter Summaries

As I noted earlier in the Introduction, the practices that fall under the heading of “science” in the early modern period are various, and frequently they do not align with our modern understanding of the term, which emphasizes rational and law-like explanations. Indeed, in sixteenth century England, the nascent sciences struggled with at least two major conflicts, those between phenomenal and realist claims on the one hand, and scholastic inquiry and experimentalism on the other. The ideological, social, and intellectual changes necessary for something like modern science to come into being were vast, and they required the insights of thinkers of the highest caliber—from Copernicus and Galileo, the perennial heroes of the scientific revolution—as well as the work of nameless masses of artisans and guild-workers whose daily efforts to improve their effectiveness and productivity contributed to the rise of early modern experimentalism.³⁰

I discuss this phenomenon in Chapter 1. William Gilbert, a physician to Queen Elizabeth, occupies a space between the recognized greats of the scientific revolution and the ordinary workers who made much of it happen. His *De Magnete* is frequently cited as one of the most important works in the English experimental tradition³¹, but he holds a place as well between the

³⁰ Edgar Zilsel, “The Origins of William Gilbert’s Scientific Method,” *Journal of the History of Ideas* 2.1 (1941): 24-32.

³¹ According to E.J. Dijksterhuis, Gilbert’s book ‘forms a beginning...of an empirical method for the study of nature’ *The Mechanization of the World Picture* (Oxford, Clarendon Press, 1961), 391. Richard Foster Jones claims for Gilbert an even more important place in the history of modern science. He argues, “the line of scientific development in which the modern spirit is most clearly revealed traces its source not to Bacon but to William Gilbert.” *Ancients and Moderns: A Study of the Rise of the Scientific Movement in Seventeenth-Century England* (St. Louis: Washington University Studies, 1961): 64.

Renaissance culture of metaphysics and a nascent empiricism and realism.³² These facts may contribute to Francis Bacon's dismissive description of Gilbert's work in *The Advancement of Learning*, where Bacon links Gilbert with bad thinkers who "have used to infect their meditations, opinions, and doctrines with some conceits which they have most admired, or some sciences which they have most applied; and given all things else a tincture according to them, utterly untrue and improper...Gilbertus, our countryman, hath made a philosophy out of the observations of a loadstone."³³ Here Bacon argues that Gilbert has strayed beyond straight truths and has inflated his insights beyond their warrant.

Instead of merely observing and recording experimental results, Gilbert sees his work as revealing deeper metaphysical truths. He argues, for instance, that the magnetic forces, because they are natural, can clear up the errors "caused by thinking, by petty syllogisms, and theories...which are wavering, imperfect, and undecided."³⁴ Although Bacon sees such metaphysical claims as an impediment to the advancement of knowledge, because it is not pure science, we can understand Gilbert's method as an alternative form of knowledge-making, the shaping of know-how. Because modern science is still in many ways nascent at the end of the 16th century, the claims that Gilbert makes about the nature of truth and reality, as well as about how truth can be discovered and articulated, are unfamiliar to most if not all of his readers. Thus, Gilbert's *De Magnete* must do double duty. First, it has to do the science, using insights about mathematics and experiment to develop a testable, observable hypothesis about how magnets

³² *ibid.*, 2-5 and 28-29. See also Mary B. Hesse, "Gilbert and the Historians (I)," *The British Journal for the Philosophy of Science* 11 (1960): 1-10. Hesse argues that inductivist accounts of Gilbert's experiments naively separate his empiricism from his metaphysics, and that some of Gilbert's incorrect conclusions derive not from his metaphysics, but from a lack of viable empirical theories.

³³ Francis Bacon, "The Advancement of Learning," *Francis Bacon: The Major Works*, ed. Brian Vickers, (Oxford: Oxford University Press, 2002): 146.

³⁴ William Gilbert, *On the Magnet*, (New York: Basic Books, Inc., 1958): 210.

function. But at the same time, Gilbert has to make this new language of hypotheses, experiments, and the mathematicized world-picture intelligible to a readership who has, by virtue of their humanistic education, little to no background in these materials. Gilbert uses the resources of poetry and rhetoric to open up a horizon in which science as such becomes intelligible, thus helping to inaugurate the scientific world-picture. Yet, at the same time as Gilbert relies on metaphor to ground this world-view, his rhetorical strategies, as I will discuss, deny meaning to the poetic, also helping to set the stage for the occlusion of poetic truth.

In Chapter 2, I turn to the poetics of Sir Philip Sidney, and his attempt to rescue the poetic from its occlusion by scientific thinking. While Spiller rightfully observes compelling parallels between poetic and scientific world making, it is important that we also acknowledge that neither early modern scientists nor poets embraced a singular and coherent set of practices and goals for their work. As I have suggested above, the stark differences between the realist and phenomenalist understandings of the hypothesis are just one important set of conditions which profoundly affect how we historicize the development of various scientific practices and methodologies, and which also affect how poetic practices respond to the changing conditions of knowledge. These differences may also help us understand why Sidney is at such pains in *The Defence* to distinguish poetry from the other sciences. These divergent representational strategies form, I will argue, at least part of the reason why Sidney adopts the strategies of Pyrrhonist skepticism. Sidney uses self-ironizing strategies in *The Defence of Poesy* to undermine attempts at apodictic truth telling, while at the same time laying the groundwork for a non-prescriptivist ethical understanding.

Chapter 3 juxtaposes Shakespeare's poetic practice against that of Sidney, turning to *The Tempest* to argue the case *The Tempest* introduces a temporal element into the conversation

about poetic meaning. Shakespeare distinguishes between poetic occasion, which preserves a deep understanding of the situation, and the scientific opportunity, which levels off the situation in favor of universal truth claims. Inevitably, Shakespeare's drama has been adduced in arguments about the overlaps between early modern art and science, and rightfully so. Shakespeare seems to have taken a keen interest in how changing modes of reasoning, representation, and experimentation affected the poetic arts. This interest is no more apparent than in *The Tempest*. Prospero's magic is frequently compared to a kind of proto-scientific instrumental reasoning because science, like magic, is the "desire for instrumentality over the phenomenal world."³⁵ Thus, the argument runs that Prospero is like a scientific-magus, one whose experiments yield knowledge about how to manipulate and control the natural world. However, I will argue that the play stages the conflict between the desire for total technological control of the world, and the understanding that the will needs to be tamed, and that sometimes the best action is not to act, and it disavows the desire for control. This has philosophical and ethical consequences. Instead of advocating for more science, knowledge, and control of the natural and social worlds, the play seems to suggest, I will argue, that there is a temporality of action, the occasion, that, to preserve the ethical universe, should be obeyed. Prospero develops from a character who ignores the occasion to one who heeds it, in contrast to characters like Antonio and Sebastian who seek every opportunity to seize power. The poetic arts, I will argue, preserve this understanding of the occasion, whereas, following Heidegger, the scientific-technological world picture reinterprets time as linear, and thus sees every moment as an opportunity for exerting technological know-how and power over the natural world. Modern science renders these distinctions meaningless whereas poetry tries to preserve them.

³⁵ Albanese (1996), 68.

In conclusion, the goal of this dissertation is twofold. First, for historiographical purposes, I hope to show that both Renaissance poets and experimentalists were keenly aware of the differences between their ways of conceiving of the world, and how their arts and sciences intervened in the world. Secondly, the poets registered science in part as a disruption, and attempted to develop ways to respond to that disruption, articulating defenses of poetry and poetic thinking in their work. Finally, I would like to suggest that this has consequences for how the contemporary humanities might best deal with the continued threats to their existence by re-emphasizing teaching over research in an attempt to make poetic thinking an active part of our students' world.

Chapter 1: Gilbert's Magnetism between Metaphor and Method

In this first chapter I will demonstrate, by surveying the historical problem of realism versus fictionalism, that William Gilbert's *De Magnete*, published in 1600, can and should be understood as a realist work of experimental or natural philosophy.³⁶ This is largely in response to those literary critics who have suggested that early modern English science does not recognize the difference between fact and fiction, and that, therefore, we can understand there to be little significant difference between early modern "science" and literature. *Pace* these critics, the example of Gilbert's realism will show that early modern English thinkers indeed recognized an ontological difference between fact and fiction—even if they did not use precisely these terms—and that this ontology structured how they thought about fiction making. Secondly, I will argue that Gilbert understands his magnetic experiments not as *knowledge-making* but as an act of *discovery*. *De Magnete* also frequently uses words associated with fiction and fiction-making both to disparage fictionalist thinking, as well as to distinguish Gilbert's empiricism from the mistakes of other magnetic philosophers. This further suggests that the kind of making of literary fiction is not compatible with Gilbert's understanding of experimental *discovery*. Finally, however, Gilbert's work is not limited by his realism. His work is inextricably concerned with creating a broader understanding of the scientific method which he helps usher into being. To create a horizon of understanding for these new scientific concerns, Gilbert uses the resources of fictional world-making, metaphor, to open up a *sensus communis*, a shared

³⁶ There is significant debate as to how whether Gilbert understood his work on magnets to be experimentalist or natural philosophy. For the purposes of this chapter, I will not argue for either position; however, the chapter asserts that regardless of whether Gilbert understood himself as an experimentalist or as a philosopher, he does understand his work to be a true and accurate description of the magnetic phenomena. See Stephen Pumfrey, "William Gilbert's Magnetic Philosophy, 1580-1684: The Creation and Dissolution of a Discipline" (PhD diss., The Warburg Institute of Renaissance Studies, University of London, 1987).

understanding of the world as understandable on the terms of the scientific method. In this way, experimental discovery can be linked with fictional world-making not because each is founded upon a kind of making, but because each understands itself as a dynamic practice, one that attempts to open up horizons of understanding. This dynamism is a capacity analogous to the rhetorical faculty, and it is the development of this capacity which marks Gilbert's experimental practice as different from modern science but continuous with his own early modern English world and poetic practice. It is on these terms that we might find common ground between early modern poetic and scientific practice.

I. Realism and Fictionalism in Gilbert's *De Magnete*

A growing number of literary scholars believe that the distinction between "literature" and "science" is an artifact of the post-Cartesian and Newtonian world.³⁷ Focusing their discussion around the nature of the early modern concept of "hypothesis," they contend that by the time of Newton's "General Scholium," a significant change had taken place. Before Newton, they suggest, the word "hypothesis" could signify the "*argumentum*, or plot, of a drama" as it had in Aristotle's *Poetics*, just as well as it could signify the provisional astronomical observations that

³⁷ Henry Turner, *The English Renaissance Stage: Geometry, Poetics, and the Practical Spatial Arts: 1580-1630* (Oxford: Oxford University Press, 2006), Elizabeth Spiller, "Shakespeare and the Making of Early Modern Science: Resituating Prospero's Art," *South Central Review* 26.1&2 (2009): 24-41, and *Science, Reading, and Renaissance Literature: The Art of Making Knowledge, 1580-1670* (Cambridge, Cambridge University Press, 2004), Howard Marchitello, *The Machine in the Text*, (Oxford, Oxford University Press, 2011), and Denise Albanese, *New Science, New World*, (Durham: Duke University Press, 1996). Albanese also argues that this divide is an artifact of scientific thinking. See especially pages 48-58. While this brief survey does not account for all of the literature on the relationship between early modern arts and sciences—much of it concerns how poets incorporate the insights and images of the sciences into their work—this does represent much of the current thinking about how the sciences and arts overlap, i.e. this is the current thinking about the "poetics" of science.

lay at the heart of works like Ptolemy's *Almagest*.³⁸ They rightfully point out that in the long history of natural philosophy and the sciences, the hypothesis frequently served a different function than it does today. For modern science, the hypothesis is understood to describe the real state of phenomena, and it is then tested to see if the description and phenomenon correspond.³⁹ We have come to expect that hypotheses can be proven or disproven, and that they are thus tools for providing accurate and correct descriptions of the world, and that they get us ever closer to a complete understanding of a given phenomenon. However, this has not always been the only, let alone dominant, way of interpreting hypotheses. In his 1969 history of instrumentalism, *To Save the Phenomena*, Pierre Duhem argues, "the hypotheses of astronomy can be viewed as mathematical fictions which the geometer combines for the purpose of making the celestial motions accessible to his calculations...only one condition is imposed on hypotheses, namely, that they save the appearances."⁴⁰ Duhem contends that as far back as the Simplicius' sixth century commentary on Plato⁴¹, hypotheses were understood as merely provisional descriptions of a phenomenon, which an astronomer could then employ to compute the motions of the planetary bodies, predicting their paths. So for instance, the Ptolemaic epicycles did not need to

³⁸ Albanese, *New Science*, 49.

³⁹ "The success of a paradigm—whether Aristotle's analysis of motion Ptolemy's computations of planetary position, Lavoisier's application of the balance, or Maxwell's mathematization of the electromagnetic field—is at the start largely a promise of success discoverable in selected and still incomplete examples. Normal science consists in the actualization of that promise, an actualization achieved by extending the knowledge of those facts that the paradigm displays as particularly revealing, by increasing the extent of the match between those facts and the paradigm's predictions, and by further articulation of the paradigm itself." Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1996): 23-24.

⁴⁰ Pierre Duhem, *To Save the Phenomena*, trans. Edmund Doland and Chaninah Maschler. (Chicago: The University of Chicago Press, 1969): 28.

⁴¹ This claim has been criticized as a misreading and a mistranslation by G.E.R. Lloyd in his essay, "Saving the Appearances" *The Classical Quarterly*, New Series, 1978 (28.1): 202-222.

be real, and many pre-Renaissance thinkers did not treat them as such.⁴² Those epicycles provided a convenient way of depicting the phenomena, so that their cycles could be computed. Historians of science call this position fictionalism or instrumentalism.⁴³

Whether hypotheses accurately represented the phenomena was for these thinkers strictly irrelevant. As long as the hypothetical circles provided a sound basis for computation, and “saved the phenomena,” early cosmologists and mathematicians were contented. This handy adage, “to save the phenomena,” denotes the expectation that the actual appearance of the phenomena will not be ignored in describing it hypothetically. An astronomer, for instance, may not ignore the retrograde motion of the planets in constructing astronomical hypotheses just because of some deep physical or even metaphysical conviction. Instead, he must retain those apparent motions even at the expense of his philosophy. In a way, this kind of thinking freed early astronomers from the kind of physical and metaphysical speculation that plagued thinkers in many other fields, and it allowed astronomers to work through numerous kinds of models of the universe with impunity, because they were never required to affirm that one model was the truest and most accurate representation of the universe over another.⁴⁴ Literary scholars point to

⁴² See especially the discussion in Michael H. Shank, “Regiomontanus on Ptolemy, Physical Orbs, and Astronomical Fictionalism: Goldsteinian Themes in the ‘Defense of Theon against George of Trebizond,’” *Perspectives on Science* 10.2 (2002): 201-203, and Peter Barker and Bernard R. Goldstein “Realism and Instrumentalism in Sixteenth Century Astronomy: A Reappraisal,” *Perspectives on Science* 6.3 (1998): 232-258.

⁴³ Shank, *Regiomontanus*, 201.

⁴⁴ Here we are reminded of Sidney’s comment in *The Defence of Poesy* that “The astronomer, with his cousin the geometrician, can hardly escape [lying], when they take upon them to measure the height of the stars. How often, think you, do physicians lie, when they aver things good for sickness, which afterwards send Charon a great number of souls drowned in a potion before they come to his ferry? And no less of the rest which take upon them to affirm” (235). Sidney calls geometers, astronomers, and physicians liars precisely because they affirm, or hold for true, one system or diagnosis over another. Inevitably because human knowledge is limited, their systems will be proven wrong, and thus lies. This is a point to which I will return in the second chapter, but Sidney holds poetry to be the superior art precisely because the poet “nothing

this attitude about early scientific representation to argue that the strict division between fact and fiction, between science and poetry, did not plague the Renaissance.⁴⁵ Accordingly, this distinction between science and poetry was introduced late in the period, and its discursive effects are the ones that continue to structure modern thinking about poetry and science.⁴⁶

According to these critics, the publication of Newton's *Principia*, in which he stresses that his arguments are not provisional but accurate and truthful depictions of the real physical universe, signifies "an important cultural shift, out of which modern taxonomies of writing begin to produce and reproduce themselves. In effect, the hypothesis had been reinscribed in a new discursive formation: that of 'science' as opposed to 'fiction,' the poetic."⁴⁷ Newton, among others, takes the early modern developments in astronomy, physics, and mathematics and changes fundamentally our understanding of the hypothesis, and concomitantly alters scientific thinking and its relationship to poetics. Unlike many of his forebears, Newton insisted that science consist of real and accurate depictions of phenomena. He writes in his "General

affirms" (235). What Duhem values in the instrumentalists/fictionalist position and Sidney in poets is the intellectual freedom that is denied other thinkers precisely because their work must be faithful to a given system. "Only the poet, disdaining to be tied to any such subjection," as Sidney says, and Duhem might suggest of the fictionalists, is truly intellectually free (216).

⁴⁵ Albanese, *New World*, 49 and Spiller, *Science*, 1.

⁴⁶ The wave-particle problem of modern physics may at first appear to be an example of scientists using hypotheses as heuristic devices without having to settle on the ontological status of light. This is true to an extent. Mara Beller suggests, "When we read papers dealing with the wave-particle issue before the rise of the Copenhagen philosophy, we hardly find feelings of desperation or distress. A patient suspense of final judgment seems to be a more fitting characterization of the attitude of physicists." She continues later, however, "While it remains unsolved, the wave-particle 'paradox' was put aside in the hopes that eventually, when a consistent atomic mechanics was found, the problem would resolve itself." Modern physicists are not so much instrumentalists, as they are waiting until they have enough insight and understanding to finally solve the problem. They are still seeking after a concrete and final understanding of the mechanics of the universe, but until they can have it, they make do with approximations. The instrumentalist position differs in that it never seems to chase after concrete understandings. *Quantum Dialogue: The Making of a Revolution*. (Chicago: Chicago University Press, 1999): 224-225.

⁴⁷ Albanese, *New Science*, 48.

Scholium”:

But hitherto I have not been able to discover the cause of those properties of gravity from phænomena, and I [feign] no hypotheses [*hypotheses non fingo*]; for whatever is not deduced from the phænomena is to be called an hypothesis; and hypotheses, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy. In this philosophy particular propositions are inferred from the phænomena, and afterwards rendered general by induction. Thus it was that the impenetrability, the mobility, and the impulsive force of bodies, and the laws of motion and of gravitation, were discovered. And to us it is enough, that gravity does really exist, and act according to the laws which we have explained, and abundantly serves to account for all the motions of the celestial bodies, and of our sea.⁴⁸

Newton here distinguishes between hypotheses that are not *deduced* from the phenomena, and propositions that are inferred from the phenomena and thereafter shown to be true or probably true by induction. He does not “frame” hypotheses because Newton believes that experimental philosophy should describe phenomena that really exist and do so accurately. What we now call hypotheses in our regular scientific conversation are these Newtonian propositions. Before Newton, then, there was no reason to assume that hypotheses were any more than useful tools for computation, but afterward they become real and accurate descriptions of the physical universe.

This history of the hypothesis strongly suggests that our understanding of early modern science and poetics as well as their interrelations must be reconsidered. If, as many critics have now suggested, the opposition between science and literature, truth and fiction, that structures much of modern thinking did not exist, then the social and intellectual functions of these disciplines may have been much closer than we have imagined. From this insight, there have been numerous attempts to rewrite the history of the relationship between early modern ‘scientific’ writing—i.e. natural philosophy, astronomy, mathematics, and experimental philosophy—and poetic writing. Yet until very recently, few critics have interrogated seriously

⁴⁸ Isaac Newton, *The Principia*, trans. Andrew Motte. (Amherst: Prometheus Books, 1995): 442-443.

and productively the shared intellectual and creative spaces of the sciences and the arts. For example, Fernand Hallyn, inverting a tradition of reading literary texts as influenced by scientific writing, argues that science has a poetics.⁴⁹ It is from this insight that Denise Albanese reminds us “the term ‘hypothesis’ had no single domain, having been employed in rhetorical, geometrical, and poetical contexts to represent, broadly speaking, what must be stipulated as a formal starting point for further demonstration or staging.”⁵⁰ One of the basic structures of modern science, the hypothesis, derives part of its long history from the liberal arts, further suggesting the permeability of these boundaries. Still others see in early modern literary works the beginnings of the kind of thinking that characterizes scientific empiricism. Henry Turner, for instance, registers in Sidney’s *Defence of Poesy* “a shift from the neo-scholastic understanding of *scientia* as certain knowledge of metaphysical causes to an empirical meaning that anticipates several modern scientific presuppositions.”⁵¹ Elizabeth Spiller concurs, suggesting that the transition from Aristotelian science as teleology to the fact, experience, and experiment-based knowledge of modern science was largely achieved by art, and that both science and the poetic arts were understood to make knowledge.⁵² Surveying critical and historical works on the relationship between early modern science and literature, Howard Marchitello argues that, now that we have “unseated” the “allegedly natural separation of *scientia* from *ars* that has been profoundly influential for much of the history of the West”⁵³, our goals are twofold: understanding this divide as a “product” of modern scientific thinking, and “telling new

⁴⁹ *The Poetic Structure of the World* (New York: Zone Books, 1993). Marchitello, *Machine*, 5-9, discusses this tradition of reading literary texts only against the background of scientific.

⁵⁰ *New Science, New World*, 49.

⁵¹ *Stage*, 84.

⁵² “Making”, 29, and *Science*, 7.

⁵³ *Machine*, 1.

narratives about the unity of culture-science.”⁵⁴

If, as these critics contend, the divisions between scientific and poetic writing and thinking did not exist in the period, then we can begin to see “that early modern science is practiced as an art, and at the same time, that imaginative literature provides a form for producing knowledge”; that “literary texts gain substance and intelligibility by being considered as instances of early modern knowledge production”; and, finally, “science maintains strong affiliations with poetic fictions because, in ways that are rarely acknowledged, its practice emerges out of a central understanding of art as a basis for producing knowledge.”⁵⁵ The seeming parallels between early modern poetic and scientific practices dissolve into genuine uniformity of purpose and practice, united by a “shared aesthetics of knowledge.”⁵⁶ Spiller’s contentions obviously see more than a fleeting parallel or a borrowed image or metaphor, or even a shared intellectual tradition linking the sciences and literary fiction. She argues that, like scientific writing, poetic fictions produce knowledge about the world. Poetic fictions, like scientific knowledge, teach people how to create knowledge themselves.⁵⁷ The essence of the scientific experiment—its reproducibility—is to some extent the essence of poetic fictions. Readers will learn how to produce and reproduce themselves and others as virtuous, moral actors.⁵⁸ Because the experimentalist tradition requires contriving novel situations for the

⁵⁴ *ibid.*, 12. Marchitello also argues elsewhere that this divide is an artifact of scientific thinking. See especially pages 348-358. While this brief survey does not account for all of the literature on the relationship between early modern arts and sciences—much of it concerns how poets incorporate the insights and images of the sciences into their work—this does represent much of the current thinking about how the sciences and arts overlap, i.e. this is the current thinking about the “poetics” of science. “Science Studies and English Renaissance Literature” in *Literature Compass* 3 (2006): 341-365.

⁵⁵ Spiller, *Science*, 2.

⁵⁶ *Ibid.*, 3.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

production of knowledge, it too is an *artifact*—made by art—in the same way that poetic fictions are. This is the “shared aesthetics” that indelibly links early modern science with early modern poetics.

Yet while parts of this history do correctly describe the state of early modern scientific thinking, there are certain gaps that challenge the notion of a “shared aesthetics of knowledge.” The first gap is the assumption that the early moderns saw no distinction between the arts and sciences, and that the distinction is developed later in the seventeenth century after the insights and discoveries of Descartes and Newton. However, the distinction appears to have a much older origin. Aristotle says in the first few pages of the *Poetics*,

[I]ndeed, that people in general attach the word ‘poet’ to the name of a particular meter and speak, for example, of elegiac poets and epic poets, calling them poets not only on the basis of imitation, but indiscriminately according to the meter they use. Even when what is produced is a versified treatise on medicine or natural science. The name of poet is by custom given to the author. But Homer and Empedocles have nothing in common except just their meter, and it is right to call the one a poet and the other a physical philosopher rather than poet.⁵⁹

Aristotle remarks that although Empedocles uses meter in his writing, the mere fact of meter does not a poet make.⁶⁰ While he does not elaborate in the *Poetics* the difference between the physical philosopher and the poet, for Aristotle there is a difference. Empedocles’ speculations about the nature of the physical universe resembles much more closely the kind of physical experimentation of Gilbert in *De Magnete* than the epic poems of Homer, Virgil, Spenser, and

⁵⁹ James Hutton, trans., *Aristotle’s Poetics* (New York, W.W. Norton & Company, 1982), 45.

⁶⁰ Sidney, of course, makes a similar comment in his *Defence of Poesy*. He says, “verse being but an ornament and no cause to poetry, since there have been many most excellent poets that never versified, and now swarm many versifiers that need never answer to the name of poets” (218).

Milton.⁶¹ The assumption that there was no difference between science and poetry before the late early modern period also seems to ignore the discussion of imitation in Book X of Plato's *Republic*. So, if the distinction between poet and physical philosopher obtains as far back as Plato and Aristotle, then it remains to be explained when and how the distinction was elided, such that the early modern period recognized no such difference. Where in the history of English poetry and natural philosophy do these disciplines realign, and how does that happen? These explanations do not yet seem to exist.

Secondly, in their historical analyses of instrumentalism, these critics have also missed a realist attitude toward hypotheses. This realism, Duhem avers, is a competing intellectual tradition in which a hypothesis could “be viewed as a description of concrete bodies and of movements that are actually realized” and that in this version, “the intellectual freedom of the astronomer turns out to be much more limited, for if he is an advocate of a philosophy which claims to know something about the celestial essence, he will have to reconcile his hypotheses with the teachings of that philosophy.”⁶² Realists believed that their hypotheses must conform to certain physical principles—often Aristotelian—and those principles became primary in their cosmological descriptions. Because the physical principles were more important and more necessary to the realists, they might, despite observable evidence to the contrary, then argue that a planet must move along a perfectly circular path, because perfect forms must trace perfect paths. It is this fidelity to physical principles that limits the “intellectual freedom of the

⁶¹ See a translation of the fragments of Empedokles here: “Fragments and Commentary,” *The First Philosophers of Greece* (London: K. Paul, Trench, Trubner, 1898), <http://history.hanover.edu/texts/presoc/emp.html#book1>.

⁶² Duhem 28.

astronomer.”⁶³ The realist position was equally alive and significant in early modern science, and it is perhaps the debates around realism that were more significant than those around fictionalism/instrumentalism.⁶⁴ As many have noted, one of the more potentially frightening aspects of Copernicus’ insights was his realist description of the physical universe. Copernicus’ tables for computing the calendar were generally well-regarded—tables which depended upon the description of the cosmos as heliocentric—but it was his insistence, and the insistence of the Copernicans, that the cosmos was in fact—and not just hypothetically—heliocentric that troubled many early modern thinkers. Realism, then, is the belief that hypotheses must, when proven, accurately depict the world, whereas the fictionalist position held only that the hypotheses must describe the phenomena faithfully, even if, finally, they were not ontologically accurate.

Elizabeth Spiller situates William Gilbert’s *De Magnete* in a fictionalist context when she compares it to Sidney’s *Defence of Poesy*. She argues that, like Sidney in his *Defence*, Gilbert

⁶³ Though, as William H. Donahue points out, this concern about intellectual freedom may have belonged more to Duhem than to any of the characters in his narrative. “The Solid Planetary Spheres in Post-Copernican Natural Philosophy,” *The Copernican Achievement* ed. Robert S. Westman. (Berkeley: University of California Press, 1975).

⁶⁴ See Robert Westman’s “The Astronomer’s Role in the Sixteenth Century: A Preliminary Study.” *History of Science* 18 (1980):105-47, and Nicholas Jardine’s *The Birth of History and Philosophy Science* (Cambridge, 1984), especially Chapter 7. In fact, Peter Barker and Bernard Goldstein have suggested that there were no instrumentalists in the sixteenth century. They say, “Pace Duhem, sixteenth century astronomers might be depicted not as fictionalists, but as perpetually frustrated realists. Their account is realist to the extent that the provision of a complete system of orbs known to exist in nature remains the ideal.” Barker and Goldstein suggest, therefore, that Osiander’s preface to Copernicus’ *On the Revolutions*, which is frequently understood as instrumentalist, is, in fact realist with the understanding that there are just certain things that cannot be known “Realism”, 250-253. Michael Shank, using the example of Regiomontanus’ *Defense of Theon*, argues that instrumentalism was indeed an actor’s category in the sixteenth century. Commenting on Ptolemy, Regiomontanus writes, “To attain an astronomy such that it not only accommodates computation to the appearances, but also truly imparts a complete knowledge of the figures of the celestial bodies with the law of their motions; [to do] otherwise is to pass along a fictitious art [*fictitiam artem*]. To safeguard in a worthwhile manner the equality of the celestial motions.” According to Shank, even though Regiomontanus is a realist, instrumentalism was a category available to sixteenth century astronomers, and thus one that can be applied to Osiander’s preface “Regiomontanus,”200-203.

understands the power of his experiments to be in their artifice and not in the knowledge that the artifice produces. Sidney argues that the poet “never lieth,” and Spiller contends,

Sidney’s point is that the poet is not concerned with matters of fact because true knowledge can never be found in such matters. Not indulging in a desire to flee “reality” but rather recognizing the imperfections of both man and this world, Sidney emphasizes that any type of “knowledge” which claims to be based on them will be equally limited and imperfect. Given the transience of the physical world, the particular is always fallible....reliance upon the human assessment of things that are already limited is as a consequence even more flawed. Considered from this perspective, the artifice of the poet’s “golden” world becomes its greatest strength. By telling only “what should or should not be,” the poet avoids the epistemological limitations to the particular by universalizing. Like...Gilbert, Sidney sees the artifice of poetry as the source of its power.⁶⁵

Gilbert’s experiments, like Sidney’s poetry, are true not because they describe the real state of physical or moral affairs at any particular moment, but instead because these artificial contrivances are connected to larger, universal knowledge claims. Not only do they move beyond the transience of our material existences, but they also move us to the higher truths by telling us “what should or should not be.” While it is obviously the case that Gilbert is concerned with a higher moral order in his *De Magnete*—an issue to which I will return later in the chapter—contrary to Spiller, I find that Gilbert is more likely a realist, who is interested in discerning the particular, material and physical truths of our existence. Gilbert’s experiments, while contrived artifices, do not create knowledge but instead *discover* the hidden causes of things. Gilbert claims that his experiments discover the true state of nature, and that his representations of that nature are therefore accurate and certain. Secondly, when dismissing the errors of previous philosophers and scientists both on the nature of the magnet as well as the nature of the earth, he frequently uses words associated with artifice—fiction, feigning, and imagination—to discredit their work. Gilbert’s active hostility toward artifice, I will argue,

⁶⁵ Spiller, *Science*, 38.

indicates that he conceives of his magnets shaped as small balls, his experimental *terrellae*, not as akin to the poet's golden world as portrayed by Sidney, but as technological devices useful for limiting errors of judgment and testing hypotheses against reality in order to discover the principles of that reality. While he also has larger political and metaphysical concerns that move beyond the limits of the physical realm, Gilbert argues that understanding the physical realm accurately and with certainty is essential to those metaphysical concerns.

The debate between the fictionalists and the realists persisted well into the Renaissance, and continued to exert a significant force on the development of various early modern sciences. As Duhem points out, we can see this debate played out most prominently in the reception of Copernicus' *On the Revolutions of the Heavenly Spheres*. While some readers and popularizers of Copernicus' work, such as Osiander in his *Ad Lectorem*, and Philip Melanchthon in his lectures on his physics assert, "It is not necessary that these hypotheses be true. They need not even be likely,"⁶⁶ others like Johannes Kepler contend that Copernicus did indeed feel he was stating true hypotheses.⁶⁷ By the end of his career, even Melanchthon had relented, leaving Duhem to judge, "but henceforth, before a hypothesis could be employed in astronomy, it would be required to be—either certainly or more or less probably—in accord with the nature of things."⁶⁸ Of course, this change is not immediate after Melanchthon, and as Duhem points out in his subsequent chapters, there is still much debate around this issue through Galileo. Furthermore, while realist thinking comes to dominate in the astronomical sciences, not all of the other sciences are so quickly converted. In fact, through the end of the Renaissance, English thinkers and scientists could not settle the debate, leaving, as Barbara Shapiro notes, a ranging

⁶⁶ Duhem, *Save*, 66.

⁶⁷ See Duhem, *Save*, Chapter 6 (66-91) for a discussion of the Copernican hypotheses.

⁶⁸ *Ibid.*, 91.

“complex of ideas” from certainty to probability and their various attendant methodologies.⁶⁹

Thus, it is not immediately clear where we might position Gilbert in the debates between the realists and the instrumentalists. While she does not say this explicitly, in aligning Gilbert with Sidney’s belief that the poets do not lie because they do not mean to tell the truth, Spiller seems to be suggesting that Gilbert’s hypotheses fall closest to the instrumentalists. That is, Gilbert does not think, according to Spiller, that his experiments must yield results that reveal the true nature of magnets. I hope to show, however, that this is a mistaken conclusion. In fact, Gilbert, in numerous passages of his *De Magnete* seems to indicate quite clearly that his hypotheses should be taken for true and likely descriptions of the real nature of magnets.

Gilbert stands squarely on the realist side of the debate about hypotheses and knowledge. In a brief chapter describing the similarities between the earth and his terrellae, Gilbert echoes those natural philosophers who feel their work should accurately describe real physical phenomena. He says,

Astronomers...settled upon certain circles and definite limits in the sky (which geographers also imitate), so that the varied face of the earth and the beauty of its districts might be delineated. But we, in a way differing from them, recognize those limits and circles, and have found very many fixed by nature, not merely conceived by the imagination, both in the earth and in our terrella...But the tropics and arctic circles, as also the parallels, are not natural limits placed on the earth...All these the Mathematicians use for convenience, painting them on globes and maps.⁷⁰

Gilbert distinguishes his lines as “fixed by nature,” unlike the merely “convenient” lines of the mathematicians and astronomers who use these fictions to “delineate” the face of the earth.

While mathematicians paint artificial lines on the globe, Gilbert’s experiments reveal the true

⁶⁹ Barbara J. Shapiro, *Probability and Certainty in Seventeenth-century England: A Study of the Relationships Between Natural Science, Religion, History, Law, and Literature* (Princeton: Princeton University Press, 1983).
28-29.

⁷⁰ Gilbert, *Magnet*, 78. My emphasis.

natural limits. His experiments, he believed, reveal “many abstruse and neglected truths in philosophy buried in piteous darkness.”⁷¹ This methodological prejudice places Gilbert’s work in the same tradition as that of Copernicus, Galileo, and Bacon, and it reveals that for him in order for a claim to be knowledge, it has to lay out the real physical laws governing a certain phenomena, or that descriptions must correspond with the actual physical circumstances of a phenomena. Furthermore, the language of this passage indicates that Gilbert sees a sharp divide between his method and the more imaginative work of poets and painters. Whereas poets and painters delineate “the varied face of the earth and the beauty of its districts,” Gilbert’s experimental method reveals only the lines “fixed by nature.” One is concerned with beauty, and the other with physical fact.

Gilbert makes his realism explicit in several ways. According to Duhem, a realist is defined in part by his or her belief that they know or can know the true physical causes of a phenomenon. On this point, Duhem quotes Simplicius comments on Aristotle’s distinction between the natural philosopher (the realist) and the mathematician (the fictionalist). Simplicius writes,

To physical theory...belongs the study of all that concerns the essence of the heavens and the stars, their power, their quality, their generation and destruction...Astronomy on the other hand, is not prepared to say anything about the former. Its demonstrations concern the order of the heavenly bodies, taking it for granted that the heavens *are* truly...The physicist must demonstrate every single one of his propositions by deriving it from the essence of bodies, or from their power, or from what best accords with their perfection, or from their generation and their transformation.⁷²

To know the essences, then, is to be a natural philosopher and a realist. Without knowing these causes, a skeptic or a fictionalist might contend, we cannot truly know anything, and therefore

⁷¹ Ibid, 13.

⁷² Qtd in Duhem, *Save*, 10-11.

we must describe phenomena cautiously, attending to what is given and not speculating about real substances. Gilbert clearly believes that he has laid hold of the real, physical causes of magnetism, and he does not hedge his bets. He writes,

While some assign occult and hidden virtues of substances, others a property of matters, as the causes of the wonderful magnetical effects; we have *discovered* the primary substantive form of globes not from a conjectural shadow of the truth of reasons variously controverted; but we have laid hold of the true efficient cause, as from many other demonstrations, so also from this most certain diagram of magnetick forces effused by the form. Though this (the form) has not been brought under any of our senses, and on that account is the less perceived by the intellect, it now appears manifest and is conspicuous even to the eyes through this essential activity which proceeds from it as light from a lamp.⁷³

Gilbert here highlights his experimental methodology that, through demonstration, has *discovered* “the true efficient cause” of magnetism. What is unique about this passage, and what again sets Gilbert apart from the fictionalists is that his method does not necessarily preserve the phenomenon. In fact, a realist believes that when has gotten a hold of the true physical nature of something, that one can distinguish between real and apparent phenomena, as Gilbert does here.⁷⁴ The forms that effuse the magnetic forces are nowhere immediately evident to our senses, but through his experimental manipulations, they are “manifest” and “conspicuous.”

This realism reverberates throughout the text, and we can see it most forcefully in the sections wherein Gilbert discusses Copernicanism. Gilbert was one of the few early advocates of

⁷³ Gilbert, *Magnet*, 207. Emphasis mine.

⁷⁴ We can see just this thing happen in Copernicus’ *Commentariolus*. Copernicus believes that he has discovered the true cause of the motion of the sun and the immobility of the earth—it is only *appearance* caused by the *real* motion of the earth. He writes, “Accordingly, let no one suppose that I have gratuitously asserted, with the Pythagoreans, the motion of the earth; strong proof will be found in my exposition of the circles. For the principal arguments by which the natural philosophers attempt to establish the immobility of the earth rest for the most part on the appearances; it is particularly such arguments that collapse here, since I treat the earth’s immobility as due to an appearance” (59). As a realist, Copernicus can begin to treat appearances as *mere* appearances, that is, phenomena which do not need to be saved, as they are frequently illusions, and can frequently contradict the real physical truth. *Three Copernican Treatises* ed. Edward Rosen. (New York: Dover Publications, Inc., 1959).

Copernicanism,⁷⁵ and it was his Copernicanism that likely earned Gilbert a rebuke by Bacon.⁷⁶

In lauding Copernicus' insights, Gilbert contrasts Copernicus' hypotheses with the "imaginary orbes of Ptolemy." He writes,

So that Copernicus (among the later discoverers, a man most deserving of literary honour) is the first who attempted to illustrate the φαινόμενα [phenomena] of moving bodies by new hypotheses: and these demonstrations of reasons others either follow or observe in order that they may more surely discover the phaenomenal harmony of the movements; being men of the highest attainments in every kind of learning. Thus the *supposed and imaginary orbes of Ptolemy* and others for finding the times and periods of the motions are not necessarily to be admitted to the *physical inquiries* of the philosophers. It is then an ancient opinion that has come down from old times, but it is now augmented by important considerations that the whole earth rotates with a daily revolution in the space 24 hours.⁷⁷

In this passage, we see Gilbert use almost precisely the distinction between realism and instrumentalism to talk about the differences between Copernicus' "physical inquiries" and Ptolemy's imagined orbs. This passage strongly suggests that the distinction was alive for Gilbert, and his praise shows us that he identified strongly with the work of Copernicus. Gilbert's reasons for identifying with the realist Copernicus are because he, too, had a physics that undergirded his entire experimental philosophy. It was his belief that his terrellas, because they were made of the same stuff, must share the same magnetic properties as the earth. This commutative physical law implies that regardless of its state, whatever happens to or with one substance must happen to all. He argues, "A magnetick vigour exists then in the earth just as in

⁷⁵ Though Robert Westman does not include him in his list of "ten thinkers [between 1543 and 1600] who choose to adopt the main claims of the heliocentric theory" "Role"106.

⁷⁶ Bacon writes the *The Advancement of Learning*, "Another error that hath some connexion with this latter is, that men have used to infect their meditations, opinions, and doctrines, with some conceits which they have most admired, or some sciences which they have most applied; and given all things else a tincture according to them, utterly untrue and improper....Gilbertus, our countryman, hath made a philosophy out of the observations of a loadstone." This philosophy likely refers to Copernicanism or, at least, heliocentrism (146).

⁷⁷ Gilbert, *Magnet*, 214-215. Emphases mine.

the terrella, which is a part of the earth, homogenic in nature with it, but rounded by Art, so as to correspond with the earth's globulous shape and in order that in the chief experiments it might accord with the globe of the earth" (212). Because the same "magnetic vigour" exists both in the magnet and the earth, once the magnet is shaped into the globular terrella, they will move in the same fashion. It is by this reasoning that Gilbert believes the earth must move around the sun: if the terrella can move, be drawn and draw due to magnetic forces, then the larger earth, which has the same properties, must also be able to move as well. Here we see rather definitively that it is Gilbert's physical claims that make him a realist Copernican rather than a fictionalist.

Gilbert's friends and readers also understood his work to be realist. In his letter to Gilbert prefacing the text, Edward Wright, a mathematician and friend of Gilbert's⁷⁸—and likely the source of some of Gilbert's mathematical insights⁷⁹—anticipates Newton's belief that hypotheses are not feigned. He writes,

Nor do those things which are adduced from the sacred Scriptures seem to be specially adverse to the doctrine of the mobility of the earth; nor does it seem to have been the intention of Moses or of the Prophets to promulgate any mathematical or physical niceties, but to adapt themselves to the understanding of the common people and their manner of speech, just as nurses are accustomed to adapt themselves to infants, and not to go into every unnecessary detail.⁸⁰

In his preface, Wright uses the principle of accommodation—that God has communicated to humanity in a way that they would understand—to explain away the apparent contradiction between scriptural accounts and the Copernican and Gilbertian contention that the earth moves.

⁷⁸ Stephen Johnston, "Theory, Theoric, Practice: Mathematics and Magnetism in Elizabethan England." *Journal de la Renaissance*. 2 (2004): 60.

⁷⁹ Stephen Pumfrey quotes at length a letter from Mark Ridley, a Fellow of the College of Physicians, and a member of Gilbert's circles, to another magnetical philosopher, Mark Barlow. Therein we find that Edward Wright at one time had admitted to writing Book 4, Chapter 12 of *De Magnete*, and thus was largely responsible for the Copernicanism in the work (61). Pumfrey also claims that Gilbert was ignorant of mathematics, a subject in which Wright and a man named Joseph Jessop like tutored Gilbert. *Magnetic*, 62.

⁸⁰ "To the Most Eminent and Learned Dr. William Gilbert..." in *Magnet*, Av.r.

The scriptures, he says, do not actually object to the motion of the earth because their rhetorical purpose is to explain the mysteries of God to the common people, not to propound the facts of the physical universe. The appeal to accommodation is necessary only because Wright feels that the Copernican and Gilbertian hypotheses describe the *real* physical universe. Were these *mere* mathematical projections, there would be no conflict between the hypotheses and scripture.

In considering the claim that Gilbert was a Copernican realist, Stephen Pumfrey argues that Gilbert in fact “emphasized even further the differences between astronomy and physics, to the extreme fictionalist position where astronomical hypotheses were denied any possibility of expressing physical truth.”⁸¹ But this is not because Gilbert himself was a fictionalist. Rather, Pumfrey sees Gilbert’s radical fictionalism about the Copernican hypotheses as a way of evacuating their physical meaning, leaving “magnetic philosophy as the only court of cosmological appeal.”⁸² Gilbert’s rhetorical strategy, in defense of his magnetic philosophy, is to deny the reality of other physical hypotheses. This leaves his own philosophy in the stronger position. So although Gilbert praises Copernicus as “a man most deserving of literary honour” (214), Pumfrey concludes, “The praise is strictly for their observational and mathematical skills and carries no cosmological significance.”⁸³ For Pumfrey, then, denying the plausibility of the Copernican hypotheses allows Gilbert’s own hypotheses to “develop untrammelled by traditional astronomy,” and Pumfrey contends finally, “The real power of magnetic philosophy, in Gilbert’s view, was its establishment of the physical (i.e. magnetic) reality of all geographical quantities, making a new magnetic geography a legitimate part of natural philosophy.”⁸⁴ This conflict between Gilbert’s magnetic philosophy and the Copernican hypotheses reinforces the claim that

⁸¹ Pumfrey, *Magnetic*, 41.

⁸² *Ibid.*, 42.

⁸³ *Ibid.*, 45.

⁸⁴ *Ibid.*, 47.

Gilbert did in fact intend his magnetic philosophy to supply a new set of physical laws.⁸⁵ From these new laws as well as his own new scientific method, Gilbert hoped to reform all of science, and to lay at its foundation claims to real, demonstrable knowledge.

From this discussion, we can see that above all else, Gilbert was a committed realist, one who believed that the laws of nature could be adequately and accurately set down through experimentation and observation. Because he was such a committed realist, Elizabeth Spiller's contention that Gilbert ascribed more significance to artificial knowledge than to natural, physical knowledge simply cannot be true. While Gilbert certainly uses artifice in order to discover the natural order of things, as I have shown above, Gilbert is committed to the idea that real knowledge of the physical universe is both possible and necessary. The artifice becomes the means and not the ends of that knowledge. As I hope to show in the next section, Gilbert goes so far as to suggest that the kind of artifice of poetry is, in fact, not knowledge at all, but falsehood, placing him squarely in an anti-poetic tradition reaching back to Plato. His methodology relies, therefore, not on the *fictions* of poetry but on the *artefaction* of craft making. These facts suggest the possibility of a much wider gulf between poetry and science in the Renaissance than is currently claimed.

II. Fiction and Faction: Art, Making, and Methodology

While Gilbert nowhere in his text articulates a theory of knowledge, his critique of fictionalism and his apparent commitment to realism provide strong clues about his

⁸⁵ In examining the relationship between Gilbert's dip theoric with that of Thomas Digges', Stephen Johnston comes to the following conclusion: "it is what we might call a post-Copernican theoric; just as with Digges' theoric of variation, Gilbert's dip theoric is not merely intended to generate numerical results—it is not to be taken as a convenient fiction; rather, it gives geometric form to a causal account of magnetic behaviour." "Theory", 60. Digges was one of the first proponents of Copernican realism in England, and his work, like Gilbert's, appears to be focused on maintaining and developing the realist line of thinking.

epistemological prejudices. Gilbert's epistemology forms one of the bases for Spiller's arguments that early modern science and poetry share significant common ground. In Spiller's view, Gilbert follows the neoplatonist Ficino in believing that his experiments, because they are artificial, get us closer to "the 'true' form of the earth than anything existing in corrupt nature."⁸⁶ She continues, Gilbert believes his "'art' works because its primary epistemological connection is with the ideal world rather than with a sensible world that is imperfect and contingent."⁸⁷ According to Spiller, Gilbert understands knowledge, and the goal of his experiments, to reveal a higher metaphysical order to the cosmos. This neoplatonism, she suggests, is what links Sidney and Gilbert, and early modern scientific practice and poetics.⁸⁸ Art, because it goes beyond nature, is the only thing that can reveal those higher orders, and thus produce real knowledge.⁸⁹

But Gilbert's realism makes it difficult to believe that his experiments aim at knowledge of a Platonic *ideal* world. Certainly, his language sometimes resonates with the notes of neoplatonism and hermeticism⁹⁰; in his preface, for instance, Gilbert writes,

And as geometry ascends from sundry very small and very easy principles to the greatest and most difficult; *by which the wit of man climbs above the firmament*: so our magetical doctrine and science first sets forth in convenient order the things which are less obscure; from these there come to light others that are more remarkable; and at length in due order there are opened the concealed and *most secret things of the globe of the earth*, and the causes are made known of those things which, either through the ignorance of the ancients or the neglect of the moderns, have remained unrecognized and overlooked.⁹¹

⁸⁶ Spiller, *Science*, 32.

⁸⁷ Ibid.

⁸⁸ Whether Sidney's poetics are neoplatonic will be taken up in the next chapter.

⁸⁹ Spiller, *Science*, 28.

⁹⁰ Although Gilbert's thinking has sometimes been called Hermetic, Pumfrey argues that "Sixteenth-century Hermeticism has degenerated into an ill-defined assortment of practices, ranging from the humanist commentaries upon the Corpus Hermeticum, though astral magic to a mere interest in alchemy. Gilbert certainly expressed some 'Hermetic' attitudes...[but] he justifiably maintained that his conclusions rested upon experiment, not antique sources." *Magnetic*, 54-55.

⁹¹ Gilbert, *Magnet*, iiii. Italics mine.

His rhetoric of ascending to the heavens and discovering the secret things of the earth certainly sounds Platonic—echoing the language of the ladder of love from Plato’s *Symposium*⁹²—though it seems to express more his passion for his work as well as his conviction that his experiments will bring forth a new “nature-knowledge” which “is almost entirely new and unheard-of.”⁹³ Above all else, Gilbert imagines his work to be a complete reformation of the sciences and philosophy, so his “Platonic” rhetoric may be a part of his extended efforts to distinguish his work from what has come before. “Climbing above the firmament,” then, may refer more to Gilbert’s sense that his work eclipses existing physical philosophy than it does to any Platonic Idealism.

Whereas the neoplatonists and the hermetics emphasized secret and arcane knowledge, Gilbert is at pains to make his experiments clear to most readers, including a glossary of terms, “Interpretation of certain words,” before the main body of the argument. He also says in his preface,

Nor have we brought to this work any pretence of eloquence or adornment of words; but this only have we done, that things difficult and unknown might be so handled by us, in such a form of speech, and in such words as are needed to be clearly understood: Sometimes, therefore we use new and unusual words, not that by means of foolish veils of vocabularies we should cover over the facts with shades and mists (as Alchemists are wont to do) but that hidden things which have no name, never having been hitherto perceived, may be plainly and correctly enunciated.⁹⁴

Gilbert wants to be able to share his insights and discoveries, so he labors to the best of his ability to be clear and direct in his descriptions. Moreover, because he understands that he will be elucidating new phenomena, he knows that he will need to be careful in his descriptions and

⁹² Plato, “Symposium” in *The Selected Dialogues of Plato* ed. Edith Hamilton (Princeton: Princeton University Press, 2002): 561-562.

⁹³ Gilbert, *Magnet*, iii.

⁹⁴ *Ibid.*

explanations not to obscure them. The nature-knowledge that Gilbert is producing will not be beyond the reach of normal men, nor is it in the realm of higher forms, which can only be perceived by the initiated. Gilbert hopes to “point [new phenomena] out as if with the finger, by real demonstrations and by experiments *manifestly apparent to the senses*.”⁹⁵ Whereas the forms must be intuited through reasoning, Gilbert’s nature-knowledge attempts to lay hold of real phenomena that he can demonstrate to anyone who can perceive it.

The experiments and the knowledge they produce in *De Magnete* are resolutely grounded in a consideration of the material causes of magnetism. Gilbert is only able to make claims about the nature of the earth because he begins with “homogenick parts of the earth.”⁹⁶ That is, for Gilbert, there is little material difference between the loadstone and the earth itself. He writes,

For although the terrestrial globe, owing to the varied humours and natures of the soil arising from the continual succession of growth and decay, is in the lapse of time efflorescing through all its ambit deeper into its surface, and is girt about with a varied and perishable covering, as it were with a veil; yet out of her womb ariseth in many places and offspring nigher to the more perfect body and makes its way to the light of day.⁹⁷

The magnetic loadstone can be used as a way of understanding the earth because it is materially much closer to her “perfect body” than all other materials. Unlike the other soils that have grown and decayed away from their original material consubstantiation with the earth, the magnetic loadstone is still basically the same stuff. But Gilbert is not a strict materialist, and his thinking introduces a qualification to his experiments that necessitates his loadstones being transformed into terrellas. In order to be true representations of the globe, his tiny magnets must share not only its form but also its shape. Although, as he says, the magnetic “strength of the stone does not emanate from a mathematical point, but from the parts themselves[.]” Gilbert

⁹⁵ Gilbert, *Magnet*, ii-iiir, my emphases.

⁹⁶ Ibid., iii.

⁹⁷ Ibid., 11.

understands that the *form* of the material is just as important as the material itself.⁹⁸ In that sentence, Gilbert emphasizes that he is not talking about a “mathematical point” for two reasons. The first, of course, is to again assert that he sees his work as realist as opposed to the fictions of the mathematicians. Related to this, though, is his argument that form matters just as much, and that it is not just an aesthetic consideration or an aesthetic imposition on the material. As we have already seen above, it is important to Gilbert that his insights not be dismissed as mere aesthetic considerations. Later in the work he says, “Astronomers...settled upon certain circles and definite limits in the sky (which geographers also imitate), so that the varied face of the earth and the beauty of its districts might be delineated.”⁹⁹ The circles and other forms that the astronomers use in their work, rather than being understood as useful heuristic devices for learning and understanding the cosmos are reduced to mere aesthetic ornaments. Both Gilbert’s scientific method as well as his exposition eschews, he tells us, these ornaments in favor of true representations. Thus, the forms, which he will later assert are essential to magnetism, must be understood as materially inherent and demonstrable by experiment, and neither imposed by the musings of philosophers nor by the imaginings of astronomers.

The terrellas must be rounded because, in Gilbert’s philosophy, it is the conjunction of matter and form that finally gives an object its “virtues,” a term that, in this case, refers to the force of magnetism. In a chapter that lays out the parts, powers, and poles of the loadstone, Gilbert contends, “But since the spherical form, which is also the most perfect, agrees best with the earth, being a globe, and is most suitable for use and experiment, we accordingly with our principal demonstrations by the stone to be made with a globe-shaped magnet as being more

⁹⁸ Ibid., 12.

⁹⁹ Ibid., 78.

perfect and adapted for the purpose (*sic*).”¹⁰⁰ The magnets must be rounded, he says, in order that they agree as closely as possible with the earth, which they are trying to model. He continues,

The stone thus prepared is a true, *homogeneous* offspring of the earth and of the same shape with it; artificially possessed of the orbicular form which nature granted from the beginning to the common mother earth: and it is a physical corpuscle imbued with many virtues, by means of which many abstruse and neglected truths in philosophy buried in piteous darkness may more readily become known to men.¹⁰¹

When the magnet is thus shaped into the *terrella*, it becomes not just some representation of the globe but owing to its material homogeneity with the earth, the *terrella* is granted essentially the same “virtues” as the earth itself. That is, the homogeneity as well as the isomorphism of the *terrella* with the earth imbues the *terrella* with the same properties as the earth. The experiment allows Gilbert not only to discover truths about magnetism but also about the earth itself. Unlike mathematical models that allow us to draw conclusions about an object or phenomenon based on accurate representations and extrapolations, the *terrellas* provide a truly experimental basis. Because of the homogeneity and isomorphism of the *terrellas* with the earth, Gilbert has provided us the means for gaining empirical knowledge about the earth and its forces.

Spiller, however, sees the art of the *terrellas* functioning differently in Gilbert’s text. She argues that Gilbert understands his work in continuity with the world-making of Ficino and Sir Philip Sidney. The *terrellas*, a word that means “little earths” or “little worlds,” gain metaphysical qualities in this tradition of thinking. Spiller contends, “As Ficino and his readers understood it, small worlds function not as representations or images of other worlds but as

¹⁰⁰ Ibid., 12.

¹⁰¹ Ibid., 12-13, emphasis mine.

enactments that can change the larger worlds they represent.”¹⁰² Our analysis thus far suggests that Gilbert, indeed, did not imagine his terrellas to be representations. The isomorphism and homogeneity of the terrellas with the earth mean that they are almost the same things, and thus according to Gilbert, we can reasonably draw conclusions about the earth from our experiments with the terrellas. But Spiller believes Gilbert draws on Ficino’s *The Book of Life* for his understanding of the effects that art has on an object like the loadstone. In the third book, called “On Making Your Life Agree with the Heavens,” Ficino believes with certain Platonic thinkers that,

this machine of the world is so connected that heavenly things are on earth in an earthly condition, and earthly things are in heaven in a heavenly dignity; and heavenly things are present in the hidden life of the world, and in the mind, the queen of the world, where they are its vital and intellectual property, its excellence. Through these bodies overhead, some people even think that magic can somehow draw down these heavenly things at the right times to men, making the lower things in agreement with the higher, and that magic can even unite the celestial bodies to us through the celestial things overhead, or work them inside us, where one can finally see them. *This is done with a certain art*, gathering many things into one, correctly and appropriately.¹⁰³

Because of an agreement of heavenly things with earthly things, and vice-versa, according to Ficino and this Platonic tradition, art, when done “correctly and appropriately” can imbue earthly objects with heavenly powers. This is the art of medicine and, in part, of talismans but also of figures. Images and figures can also receive heavenly powers, and are therefore also capable of “doing things”—in this case, the vague phrasing refers to a variety of possible outcomes, including healing, granting longevity, happiness, conquering timidity, etc.¹⁰⁴—for “that figure

¹⁰² Spiller, *Science*, 26.

¹⁰³ Marsilio Ficino, *Marsilio Ficino: The Book of Life*, trans. Charles Boer. (Irving: University of Dallas, 1980): 135. Emphases mine.

¹⁰⁴ See especially Chapter 18, pgs. 144-151 for a fuller list of possible uses and outcomes of certain figures.

[the artist or artisan] forces the figure out.”¹⁰⁵ Art intervenes in nature, creating not representations but figures capable of bringing powerful change to their worlds. The knowledge produced by these figures, then, is truer than natural knowledge because it is linked with heavenly or celestial knowledge. In Spiller’s words, “Made by art, Gilbert’s terrellas have an ideal form that is more “virtuous,” and thus more capable of producing true knowledge, than the earth itself. Sidney’s description of the making of golden worlds that produce knowledge through “what may be and should be” is thus embodied in Gilbert’s terrellas[.]”¹⁰⁶ For Gilbert, according to Spiller, what is enacted or finally created by this form of art are better, more virtuous people.

Edgar Zilsel’s influential article, “The Origins of William Gilbert’s Scientific Method” agrees with Spiller’s conclusions that Gilbert sees an important metaphysical component to the shape of his terrellas. Contending that, “Obviously his [Gilbert’s] explanation of magnetism is based on the Scholastic metaphysics of active forms[.]” Zilsel says, “In all his experiments he uses spherical loadstones, although he himself knows...that bar-like magnets are more effective. He calls them “little earths”...and presumably clings to the medieval shape of his magnets because he believes in a metaphysical connection of spherical form and magnetism.”¹⁰⁷ Yet in various places, Gilbert explicitly denies this metaphysical connection. Indeed, in his overview of ancient philosophical writings on magnetism, Gilbert lists Ficino as among the more modern authors who,

for, not being practiced in the subjects of nature, and being misled by certain false physical systems, they adopted as theirs from books only, without magnetical experiments, certain inferences based on vain opinions, and many things that are not, dreaming old wives’ tales. Masilius Ficinus ruminates over the ancient

¹⁰⁵ Ficino, *Life*, 143.

¹⁰⁶ Spiller, *Science*, 28.

¹⁰⁷ Zilsel, “Origins”, 4.

opinions, and in order to show the reason of the direction seeks the cause in the heavenly constellation of the Bear to prevail in the stone and to be transferred to the iron.¹⁰⁸

Gilbert stresses again the extreme importance of experiments to reveal the truth about phenomena, but more to our purposes, he tells us that knowledge cannot be found in old books—likely a commonplace this late in the Renaissance—or fiction derived from “dreaming old wives’ tales”. The conjunction then between the shape of the terrellas and the earth has nothing to do with Gilbert’s supposed metaphysical speculations. As I contended above, Gilbert shapes his magnets as terrellas so that he may draw *physical* parallels to the earth.

John Henry, in a recent article, agrees, saying, “the whole point of *De Magnete* was to offer a solution to a crucial problem for Copernican theory.”¹⁰⁹ The problem was a remnant of Aristotelian physics: how does the earth move without something to keep it moving? While Copernicus could conclude mathematically that the earth moves, he did not provide a physical explanation for the phenomena, leaving his system open to attacks by adherents of Aristotelian physics. Gilbert’s book was to be answer to this problem. Gilbert argues, according to Henry, “Magnets have the ability to rotate spontaneously, and the earth is a giant magnet; therefore, the earth has the power to rotate spontaneously. The whole of *De Magnete* was dedicated to showing the truth of this.”¹¹⁰ Gilbert’s method, then, is both resolutely physical, and resolutely empirical. His loadstones take the shape of the earth not because *art* produces metaphysical changes, but because it provides the necessary parallels to the earth to make empirically grounded arguments about the physical mechanics undergirding the earth’s movement.

So, if Gilbert’s magnetic artifacts, the terrellas, do not create knowledge through some

¹⁰⁸ Gilbert, *Magnet*, 3.

¹⁰⁹ John Henry, “Animism and Empiricism: Copernican Physics and the Origins of William Gilbert’s Experimental Method,” *Journal of the History of Ideas*, 62.1 (2001): 106.

¹¹⁰ *Ibid.*, 107.

appeal to a higher, metaphysical realm, then how does he understand the function of his experiments, which, as Spiller affirms, are the result of artfully contriving circumstances? Again, Gilbert's text does not directly answer this question, but the outlines of an answer can be found in numerous places throughout *De Magnete*, and in those places where he complains about the deficient methods of previous magnetic philosophers. He contends that the work of his forebears has been dismissed because "all their petty reasons are rejected by the more prudent as useless, uncertain, and absurd, being supported by no proofs or arguments[.]"¹¹¹ His work, he hopes, will be able to provide those certain reasons and arguments, but that can only happen through experimentation. Certainty, then, is one of the key aspects of his experimental method, and a certainty about the underlying physical causes of magnetism. We see this more clearly as Gilbert nears the end of his work. At the beginning of the fifth book, Gilbert writes, telling his readers what will be learned by the next experiments, that,

In due course we have now come to that notable experiment, and remarkable motion of magnetick bodies dipping below the horizon by their own rotatory nature; by the knowledge of which is *revealed* a unity, a concordancy, and a mutual agreement between the terrestrial globe and the loadstone (or the magnetick iron), which is wonderful in itself, and is *made manifest* by our teaching. This motion we have *made known* in many striking experiments, and have established its rules; and in the following pages we shall *demonstrate* the causes of it, in such a way that no sound, logical mind can ever rightly set at nought or disprove our chief magnetick principles.¹¹²

The verbs and verb phrases I have highlighted in this passage, "revealed, made manifest, made known, and demonstrate," tell us a good deal about Gilbert's experimental method. According to Gilbert, we can say that we know something once we have revealed its causes through demonstration. The experiment is both the revealing of causes and the demonstration that the causes are the causes. The experiment allows us to see what the possible causes may be, and

¹¹¹ Gilbert, *Magnet*, 115.

¹¹² Gilbert, *Magnet*, 184. Emphases mine.

through further experimentation, we can isolate and narrow the possible causes of the phenomenon to the actual causes.

This situation is analogous to Bruno Latour's understanding of the experiment as a narrative text. He argues, "An experiment is a text about a nontextual situation, later tested by others to decide whether it is simply a text. If the final trial is successful, then *it is* not just a text, there is indeed a real situation *behind* it, and both the actor and its authors are endowed with a new competence[.]"¹¹³ Gilbert's initial experiment reveals potential causes of the magnetic phenomena, which, according to Latour, is the text. This text is then submitted to multiple trials by other scientists—though in Gilbert's case, anyone with the means and the interest can carry out the trial—to see whether the results hold up under repeated scrutiny. If they do, then the results of the first trial, the initial text, can be said to describe a real situation, and we can say that we now *know* something about the phenomenon. If they don't, then the initial text remains just that, a text, a fantasy, a fiction, and a mistake. Gilbert encourages his readers to test his experiments. In his preface, he writes,

to our own *discoveries* and experiments we have affixed asterisks, larger and smaller, according to the importance and subtlety of the matter. Whoso desireth to make trial of the same experiments, let him handle the substances, not negligently and carelessly, but prudently, deftly, and in the proper way; nor let him (when a thing doth not succeed) ignorantly denounce our *discoveries*: for nothing hath been set down in these books which hath not been explored and many times performed and repeated amongst us.¹¹⁴

Here, again, Gilbert refers to the results of his experiments as *discoveries* and not creations.

Nowhere in his text, *pace* Spiller, does Gilbert seem to understand his work as creating knowledge. What other "true philosophers" will be doing in repeating his experiments is not

¹¹³ Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge: Harvard University Press, 1999): 124.

¹¹⁴ Gilbert, "Preface to the Reader," iiiv. Emphases mine.

creating knowledge but confirming the discoveries. Interestingly, Gilbert also introduces a concept of experimental rigor in this preface. In calling on others to repeat his experiments, he also warns them not to be too hasty in dismissing his results, and to remember to proceed cautiously and “in a proper way.” That is, Gilbert would like his work to be either challenged or verified, but the disagreements and confirmations need to come from experiment and those experiments should proceed with as much care and caution as he exercised in his initial work. Those demonstrations, the experiments, are the heart of his work, as he says, “Many things in our reasonings and hypotheses will, perchance, at first sight, seem rather hard, when they are foreign to the commonly received opinion; yet I doubt not but that hereafter they will yet obtain authority from the demonstrations themselves.”¹¹⁵ If Gilbert is unsettling the common opinion, then he must have a new ground upon which to argue for his magnetic hypotheses. Experiment is that ground. In this new practice, the work of the scientist-philosopher reveals and confirms knowledge; it does not create it. In this way, new knowledges can certainly be said to be *gained* but not necessarily *created*.

Finally, looking at Gilbert’s comments on art and the imagination throughout *De Magnete*, we can see that “art” has a very circumscribed role; while Gilbert affirms the value of art, he does so only in the context of artisanal crafts. Imaginative or fictive art, on the other hand, plays no role in the development of Gilbert’s scientific empiricism, and as I have suggested above, Gilbert carefully separates his work from the more ‘aesthetic’ work of mathematicians. In the culminating chapters of his book, Gilbert actively denigrates the imaginative arts, demonstrating again that he does not recognize any shared goals between his new philosophy and the poetic arts. Spiller has argued throughout that Gilbert and Sir Philip

¹¹⁵ Ibid., iiiiv-iii.

Sidney place a high premium on their art as means of making knowledge. She claims, “Both writers would insist that their ‘art’ works because its primary epistemological connection is with the ideal world rather than with a sensible world that is imperfect and contingent.”¹¹⁶ While, obviously, Sidney’s *Defence* understands art as playing an undeniably central role in human activity, Gilbert, despite Spiller’s claims, does not. I have already suggested above that Gilbert’s realist physical project does not appeal to an “ideal” world in making his epistemological claims. What, finally, needs explication is the role of art in his thinking.

III. Gilbert Between Art and Artifice

Early in his examinations of the loadstone, Gilbert’s use of the word “art” certainly seems to suggest that he understands art to be of central importance to his scientific practice. He writes,

The stone thus prepared is a true, homogeneous offspring of the earth and of the same shape with it: *artificially* possessed of the orbicular form which nature granted from the beginning to the common mother earth: and it is a physical corpuscle imbued with many virtues, by means of which many abstruse and neglected truths in philosophy buried in piteous darkness may more readily become known to men.¹¹⁷

The language of this passage appears to suggest that it is the artificial nature of the terrella—a loadstone prepared in the shape of a globe—that grants it its “many virtues,” virtues that then grant knowledge of the earth heretofore unknown and inconceivable. Yet, as I have argued above, these “virtues” refer merely to the magnetism that both the loadstone and the earth share because of their material similarities, and that the form—granted to the loadstone by art—provides the shape necessary to make empirically based judgments about the physics of the earth’s motion. When Gilbert lauds art, it is art understood as craft and not as imaginative fiction. In other words, Gilbert understands art as those handicrafts, such as woodworking,

¹¹⁶ Spiller, *Science*, 32.

¹¹⁷ Gilbert, *Ibid.*, 12-13. Emphases mine.

metalworking, etc., and not poetry. We see this in a passage dedicated to praising the various uses of iron. He praises art by praising the various uses to which art can put iron, writing, “Art smelts it by various processes, improves it, and turns it, above all material substances, to the service of man in trades and appliances without end. One kind of iron is adapted for breastplates, another serves as a defence against shot, another protects against swords and curved blades...another is used for making swords, another for horseshoes.”¹¹⁸ In this passage, art becomes rather mundane and pedestrian, fulfilling some of the basic needs of an agricultural and martial society. There are no grand claims for art creating ideal knowledge; rather art is praised precisely because it creates objects of immediate material need or use. Moreover, Gilbert’s praise of art is in fact secondary to his praises of iron, which he argues “subserv[es] many and the greatest needs of man” better than diamonds or gold, metals which man values much more than deserved.¹¹⁹ As far as I can tell, Gilbert only uses the word “art” when referring to the arts as broadly understood—such as the “art” of navigation, i.e. the skill or practice—or when he means craft-making, i.e. smelting, carpentry, etc.

In the introduction to her study, Spiller claims, “when William Gilbert and Philip Sidney present themselves as being engaged in acts of ‘making,’ it is precisely this ‘made’ quality that constitutes the source of the knowledge they create.”¹²⁰ Spiller, of course, recognizes here that the English word “fact”—which, in our present idiom, has become synonymous with scientific thinking—is derived from the Latin word “facio” which means “to make, or to do.”¹²¹ If making

¹¹⁸ Gilbert, *Ibid.*, 24.

¹¹⁹ *Ibid.*

¹²⁰ Spiller 6.

¹²¹ *Ibid.*

is the essence of poetry—as Sidney seems to affirm in his *Defence*¹²²—and making is also at the heart of scientific activity—to which the word ‘fact’ seems to attest—then clearly there must be a strong link between the two. But here Spiller errs in forgetting that in Latin, as in Greek, there are two different words for the two different kinds of making of science and poetry: *facio* and *tingo*. These words, just like their equivalents in Greek¹²³, are still relevant in English, as our words *fact* and *fiction*, respectively, are derived from them. In Gilbert’s Latin text as well as the English translation, the word “*tingo*”—translated both as “feign” and “fiction”—is used to mark ridiculous and absurd claims, suggesting finally, as I will now discuss, that Gilbert recognizes no overlap between the art of science and the art of poetry.

Gilbert uses the words “feign” and “fiction” as terms of abuse and dismissal throughout his work. In Book II, Chapter XXXV, he discusses briefly the perpetual motion machine, which some have imagined to be possible with magnets.¹²⁴ He argues against such machines because, “they [the philosophers] have been little practiced in magnetick experiments who forge such things as that. For no magnetick attraction can be greater (by any skill or by any kind of instrument) than the retention.”¹²⁵ His objections are two: 1) the inventors of such machines

¹²² Sidney writes, “The Greeks called him a ‘poet’, which name hath, as the most excellent, gone though other languages. It cometh of this word *poiein*, which is, to make: wherein, I know not whether by luck or wisdom, we Englishmen have met with the Greeks in calling him a maker”, *Defence*, 215.

¹²³ According to Heidegger, in his influential essay, “The Question Concerning Technology,” “The word [technology] stems from the Greek. *Technikon* means that which belongs to *technē*. We must observe to things with respect to the meaning of this word. One is that *technē* is the name not only for the activities and skills of the craftsman, but also for the arts of the mind and the fine arts. *Technē* belongs to bringing-forth, to *poiēsis*; it is something poietic” (13). Unlike for the Greeks, modern technology and poetry occupy two very different realms of thinking. Like fact and fiction, they have been cleaved apart by a long history of metaphysical changes. From *The Question Concerning Technology and Other Essays*, trans William Lovitt (New York: Harper Torchbooks, 1977).

¹²⁴ Gilbert, *Magnet*, 107.

¹²⁵ Ibid.

have not worked closely enough with magnets in experiments, and therefore, they do not actually know how magnets behave; and 2) there is a physical principle—“no magnetick attraction can be greater...than the retention”—that makes such a machine impossible. According to Gilbert, these philosophers are both poor experimenters and also poor physicists, therefore no scientists. Their machine will not work! Yet, he adds to this an aside, saying that the attraction cannot be made greater than the retention by skill or instrument. That is, no art can overcome the physical limitations of the magnet. This moment serves again as a reminder that Gilbert’s experiments serve fundamentally to reveal the physical and material truths about the phenomena he investigates. He then notes that “Such a machine Peter Peregrinus,” one of the earlier writers of a treatise about magnets, “*feigned* many centuries before,” and then, at the end of this short chapter, Gilbert adds a lament, crying, “O that the gods would at length bring to a miserable end such *fictitious*, crazy, deformed labours, with which the minds of the studios are blinded.”¹²⁶ In no subtle way does Gilbert denigrate fiction-making. By associating the fictitious with “crazy, deformed labors” and blinded minds, he has drawn a stark contrast to his own empirical method. Where the English translator has used “crazy” the Latin uses “*furatos*” which in this context may link back to the notion of the *furor poeticus*, the poetic fury of inspiration, a kind of madness.

Nor is this an isolated incident. Gilbert again uses the same two words, feign and fiction, in a single passage to dismiss the errors of cosmologists who believe that the *Primum Mobile* could turn around the Earth in 24 hours, but that the Earth could not rotate around its axis in the same amount of time. He writes, “But to feign [*fingere*] a *Primum Mobile*, and to attribute to the

¹²⁶ Ibid. Emphases mine. The Latin reads, “Talem machinam multis ante saeculis *finxit*, aut ab aliis acceptam delineavit Petrus Peregrinus, multo ad rem aptiorem...ut dii tandem male perdant huiusmodi *fictos*, & *furatos*, & *deformatos* labores, quibus studiosorum mentes perstringuntur.” William Gilbert, *De Magnete*, <http://www.lancaster.ac.uk/fass/projects/gilbert/works/demagnete.htm>. Emphases mine.

thing thus feigned [*fingo*] a motion to be completed in the space of 24 hours, and not to allow this motion to the Earth in the same interval of time, is absurd.”¹²⁷ Although Gilbert is explicitly calling absurd the notion that the significantly more expansive *Primum Mobile* can travel in 24 hours but the smaller Earth cannot, there is still a clear association in his writing between the fictive and the absurd. In almost every instance of the words “fiction” or “feign” in the text, Gilbert is dismissing an idea that he finds unreasonable, untenable, or simply idiotic.

Gilbert’s methodology, his adherence to physical realism, as well as his understanding of craft-making as opposed to fiction-making all appear to strongly contradict the idea that his scientific practice shares common ground with Sidney’s poetic practice. For Gilbert, his experiments do not appeal to a higher ideal order to make knowledge; rather, the experiments reveal the physical nature of the universe by creating objects that are similar enough materially and formally to stand in for the Earth. These objects allow for empirically based judgments about the Earth and the formulation of new physical laws that would have not otherwise been possible, especially under the sway of realist scientific practice. But while Gilbert seems to explicitly position the insights of his scientific practice against the fictions of philosophers and poets, a division that will come to define modern disciplines, like Spiller, we must recognize that these practices did indeed share “intellectual grounds.”¹²⁸

In the next section, I will explore these shared intellectual grounds by suggesting that Gilbert’s scientific practice shares with early modern poetic practice an interest in developing intellectual capacities. While these concerns develop along different lines, their impetus, I hope to suggest, comes from the same rhetorical and philosophical insights that formed the basis of Gilbert and Sidney’s humanist education. Standing at the forefront of modern scientific thinking,

¹²⁷ Gilbert, *Magnet*, 218.

¹²⁸ Spiller, *Science*, 2.

Gilbert understands that in order for his work to make sense to contemporary readers, he first has to articulate a space in which his presumptions about truth and method might make sense. To do so, he turns to the resources of poetry and rhetoric while, simultaneously, undermining the value and meaning of poetry and rhetoric in his own moment and for the development of modern science.

IV. The Scientific *Sensus Communis*: Gilbert and Metaphor

When R. F. Jones identifies in Gilbert's work a tradition from which "the line of scientific development in which the modern spirit is most clearly revealed,"¹²⁹ he is, I contend, noticing a tradition derived not from the individual magnetic insights of Gilbert's *De Magnete* but rather from a concrete and portable methodology that, with various modifications, can be applied to solving any number of natural-physical problems. As I have outlined in the previous section, Gilbert's insights are derived largely from a realist physical methodology that uses experimentation to reveal the true underlying causes of phenomena. Unlike the work of an Aristotelian, whose insights must be founded upon the metaphysical speculations of the great philosopher, Gilbert's method combines experiment with mathematics to reveal a new way of thinking about the physical universe. In this section, I will show how this adherence to method is what finally distinguishes Gilbert's scientific practice from the poetic and rhetorical practice of late 16th century England. Yet despite Gilbert's efforts to create a new kind of nature-knowledge, his thinking is still informed by a concern for rhetorical thinking. So, while his methodological prejudice informs his insights about magnetism, including the experiments and the conceptions of nature that make his experiments possible, Gilbert defines and defends his

¹²⁹ Jones, *Ancients*, 62.

practice by utilizing humanist rhetorical strategies that overlap with and use the same kind of intellectual resources as poetry.

I will argue that Gilbert still understands his magnetic experimentation within the context of human concern. That is, although he subjects the magnet to rigorous mathematical and methodological scrutiny, these experiments and their results always return to a concern about the nature of human existence: what does knowing more about the loadstone do for us (better navigation, colonization, etc.), how has the loadstone been implicated in human events (presaging once a civil war), etc. (26), and how magnetism governs human reason (210). Gilbert's work is imbricated in a way of thinking that is slowly—and almost imperceptibly for him—becoming two. While his work is primarily scientific in the modern sense, it retains a real concern with the context and meaning of knowledge. He searches both for the true (method) and the probable (myth). This latter half is tied up with the problem of making space for a new kind of knowledge. That is, how do you articulate a new way of looking at the world within the context of the old? Gilbert can't just proclaim the truth of his claims by pointing to his experiments. Rather, he must also make them appear to be true; he appeals to the world as it is already understood. Gilbert's *Of Magnets* is part of the project of radically reforming our understanding of the world, but because it is still a part of the old world, it is a science that is also fundamentally rhetorical and dynamic. This is not cynical on Gilbert's part. Rather, while he understands that what he is doing is fundamentally new and radical, he is still committed to an older understanding of meaning.

The development of the scientific method becomes one of the hallmarks for the modern split between science and poetry. According to Patrick Grant, “the discovery of the scientific method precipitates a characteristically modern divorce between physics and metaphysics, and in

so doing challenges poets to investigate with new self-consciousness the relationship between fictive images and truth.”¹³⁰ Poets, caught between these two ways of representing and conceiving of knowledge and truth, are forced to re-examine the nature of their own fictions. The scientific method, on the one hand, is “a certain efficient organisation of knowledge, based on the assumption of responsibility for a mathematico-empirical investigation of nature, espousing a corpuscular theory of matter and, for practical purposes, depicting the universe in terms of geometrical configurations of mass in space.”¹³¹ The modern scientific method blends, according to Grant, mathematics and experimentalism in investigating nature. The universe is transformed through geometry into a mathematically legible tapestry, and although this isn’t relevant for Gilbert, matter is now understood to be a divisible configuration of particles, each with their own properties, and each combinable with the other to form new wholes. The scientific method relies heavily on past theoretical and experimental successes, a fact which Grant’s definition reflects.¹³² The scientific method is progressive in this way. It retains and preserves knowledge—established facts and laws—until such preservation conflicts with newly established facts and laws. This conflict necessitates a paradigm shift—a radical change in the scientific picture—that reinterprets the conflicts and allows for phenomena to be successfully understood and predicted under the new paradigm. Normal scientific research cannot

¹³⁰ Patrick Grant, *Literature and the Discovery of Method in the English Renaissance* (Athens: University of Georgia Press, 1985): ix. Heidegger also agrees that the scientific method is one of the characteristic features of the modern age in his essay, “The Age of the World Picture.”

¹³¹ Grant, *Ibid.*, 11.

¹³² Kuhn, *Structure*, 23: “The success of a paradigm—whether Aristotle’s analysis of motion, Ptolemy’s computations of planetary motion, Lavoisier’s application of the balance, or Maxwell’s mathematization of the electromagnetic field—is at the start largely a promise of success discoverable in selected and still incomplete examples. Normal science consists in the actualization of that promise, an actualization achieved by extending the knowledge of those facts that the paradigm displays as particularly revealing, by increasing the extent of the match between those facts and the paradigm’s predictions, and by further articulation of the paradigm itself.”

accommodate conflicting paradigms, so one interpretation usually—if after periods of long struggle—takes precedence over another. But in any case, the goals of normal science are simple: the establishment of testable and demonstrable law-like regularities. This is Gadamer's understanding of method, one which he uses to critique the ubiquity of the scientific method in the human sciences [*Geisteswissenschaften*]. He claims, “the moral sciences also depend on recognizing uniformities, regularities, and laws that make the individual appearances and processes [of phenomena] predictable.”¹³³ Method is a way of reducing all phenomena to law-like regularities. Those laws may be different for different phenomena, but methodology allows us to discover the truth of any given phenomena in the same way: by establishing what about them is regular, calculable, and constant.

Despite Grant's claim that “the discovery of the scientific method...challenges poets to investigate with new self-consciousness the relationship between fictive images and truth” there is still much resistance by poets, rhetoricians, and others to the then growing ubiquity of the scientific method. While I will develop this further in my next chapter, some preliminary remarks are required here to illustrate the grounds and kinds of objections. Sidney in his *Defence of Poesy* spurned this kind of methodological thinking, calling it derivative and even spiteful. He writes,

First, truly a man might maliciously object that Plato, being a philosopher, was a natural enemy of poets. For indeed, after the philosophers had picked out of the secret mysteries of poetry the right discerning true points of knowledge, they forthwith putting in method, and making a school-art of that which the poets did only teach by a divine delightfulness, beginning to spurn at their guides, like ungrateful prentices, were not content to set up shops for themselves, but sought by all means to discredit their masters; which by the force of delight being barred them, the less could overthrow them, the more they hated them.¹³⁴

¹³³ Hans-Georg Gadamer: *Wahrheit und Methode* (Tübingen: J.C.M. Mohr (Paul Siebeck), 1990): 9. Translation mine.

¹³⁴ Sidney, “Defence”, 238.

This passage comes from a long section in which Sidney attempts to rehabilitate Plato's understanding of poetry. Plato, in Sidney's view, became an enemy of poetry not because he thought that poetry was naturally bad but because the true art of poetry, its mystery, had been lost on the poets and interpreters of poetry in his time. The pleasing examples which the poets had provided as divine delightfulness were turned, instead, as Sidney notes with irony and sarcasm, into "true points of knowledge." These true points of knowledge became a school-art both of poetry and moral philosophy—rote, mechanical, and catechistic—being applied regardless of their provenance or their relation to the particulars; thus, poetry lost its vigor and vivacity and most importantly, its relevance for a changing human existence. It is this *abuse* of poetry, according to Sidney, that Plato condemns in the poetry of his time and not poetry itself. We can see in Sidney's characterization of the abuse a critique of methodological thinking. While he is not explicitly focusing on the natural-philosophical method, method, which makes everything regular, calculable, and constant, is opposed to the mystery of poetry, which, like delight, is relational and historical. Knowledge derived from method "is unhistorical in its essence because logical evidence *always* is valid when it has been acknowledged based on its necessity and universal validity which it possesses by definition."¹³⁵ This seems to be precisely the point Sidney is making. When poetry transformed by method becomes a school-art of moral philosophy, it becomes an ossuary, housing "true points of knowledge," deadened and deadening moral precept. Universal validity renders poetic understanding irrelevant and meaningless. Furthermore, method in this characterization allows no room for pleasure—a purely existential and relational quality. Pleasure, as Sidney affirms throughout, is an essential feature of poetry.

¹³⁵ Ernesto Grassi, *Rhetoric as Philosophy: The Humanist Tradition*, trans. John Michael Krois and Azizeh Azodi (Carbondale: Southern Illinois University Press, 1980): 27.

At least for Sidney, method and poetry seem to be opposed. Therefore, it makes little sense to attempt to compare the two based on shared intellectual goals. However, as I hope to show, Gilbert's work is not wholly consumed by its scientific methodology. Despite his methodological realism and anti-fictional prejudices, Gilbert's work is articulated within a context not yet wholly subsumed under the structure of scientific thinking, and thus we can begin to see what of his scientific practice is to some extent compatible with the poetic and rhetorical concerns of someone like Sir Philip Sidney. This is not to say, however, that Gilbert's work finally rescues the poetic. Perhaps even unconsciously, the poetic still works for Gilbert; it provides him a way of opening up his scientific universe to a world that still moves within the poetic and theological. Yet despite Gilbert's use of metaphor, that is, of poetic ways of thinking, the consequence of his work is still finally occludes poetic meaning.

In the first few pages of his treatise, Gilbert instructs the reader in how to fashion a terrella. He emphasizes that in so doing, the little magnet will have poles "conformable to the earth's" (13). In this moment, geometry becomes the language of accurate representation, granting to the magnet the status of true model of the earth. It is also through these geometric figures transposed onto the surface of the earth-magnet that Gilbert will reveal "many abstruse and neglected truths in philosophy buried" (13). The "true poles" revealed by geometry are exactly what will allow Gilbert's work to become repeatable and, though he does not name it as such, objective. For Heidegger, part of the essence of experimentation is calculation. He writes,

Experiment begins with the laying down of a law as a basis. To set up an experiment means to represent or conceive...the conditions under which a specific series of motions can be made susceptible of being followed in its necessary progression, i.e., *of being controlled in advance by calculation*...Experiment is that methodology which, in its planning and execution, is supported and guided on the basis of the fundamental law laid down,

in order to adduce the facts that either verify and confirm the law or deny it confirmation.¹³⁶

Without geometric representation, Gilbert would not have the means by which to plan in advance the steps of his experiment nor to measure (in order to confirm or deny his hypotheses) his results. Mathematical representation gives to his experiments a regularity that makes them repeatable, and which ensures that the results, if they are true, will be constant. If this is so, then Gilbert here has given us our first glimpse of modern experimentation by marrying geometric representation with his experiments.

The search for law-like regularity is also a defining feature of Gilbert's work. In his "Preface to the Reader," Gilbert pleads that his work not be casually dismissed and encourages his readers to verify his experiments. He says,

To our own discoveries and experiments we have affixed asterisks, larger and smaller, according to the importance and subtlety of the matter. Whoso desireth to make trial of the same experiments, let him handle the substances, not negligently and carelessly, but prudently, deftly, and in the proper way; nor let him (when a thing doth not succeed) ignorantly denounce our discoveries: for nothing hath been set down in these books which hath not been explored and many times performed and repeated often amongst us.¹³⁷

Gilbert argues that his work has been done in a rigorous, methodological manner, and that the results are replicable. By noting that his experiments have been "many times performed," he is suggesting that there is a regularity to his observations that supports the finality of his claims. Therefore, his insights can be said to be truthful; they have discovered real—real because they are regular and predictable—aspects of a given phenomenon. Calculation also serves an important function in Gilbert's treatise despite the occasional disparaging remark, and the fact

¹³⁶ Martin Heidegger, "The Age of the World Picture" in *The Question Concerning Technology and Other Essays* trans. William Lovitt. (New York: Harper Torchbooks, 1977): 121-122. Italics mine.

¹³⁷ Gilbert, *Magnet*, iir.

that he rarely discusses mathematics explicitly. At a point late in the work, he dismisses the idea of the *primum mobile* as a work of imagination and a merely “mathematical hypothesis”; yet, this does not appear to be a full-throated condemnation of mathematics.¹³⁸ Rather, Gilbert seems to think that mere mathematics without the confirmation of experimentation can be dangerous and lead to error. As Gilbert’s liberal use of geometric diagrams shows, he felt calculation to be extremely important to his work. The following geometrical figure demonstrates how Gilbert uses mathematics to calculate in advance as well as to demonstrate the direction of attraction of one of his terrellas as it moves along another terrella, which, in this moment Gilbert sees as standing in for the “earth itself.”¹³⁹ Here Gilbert combines mathematics with experiment to demonstrate the truth of his hypotheses.

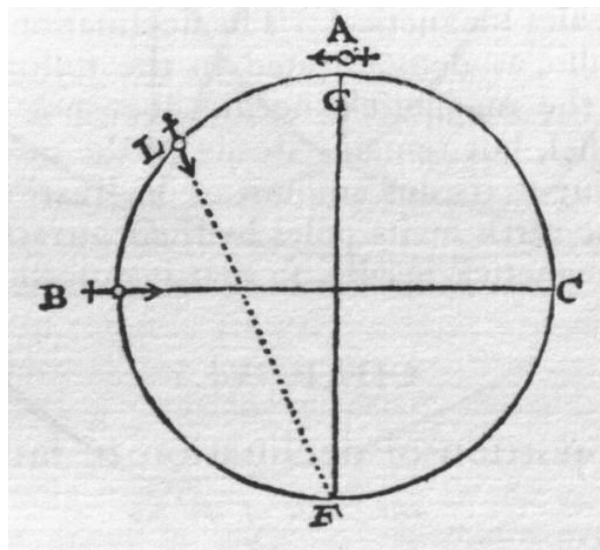


Figure 1: Gilbert has mapped the path of a smaller magnetic terrella as it roles along a larger one.

While Gilbert has performed the experiment, he is able to let the mathematics take over, commenting what would happen given these trajectories (198).

¹³⁸ Gilbert, *Magnet*, 217.

¹³⁹ Gilbert, *Magnet*, 197.

Yet, despite Gilbert's obvious methodological and epistemological prejudices—as I have shown above, Gilbert strongly identifies fiction with falsity—his work frequently takes advantage of a variety of poetic and rhetorical techniques to communicate to his audience the import of his insights. In fact, Gilbert, along with many other scientific readers of the period, engages in the creation of a new kind of literary public, the scientific reader. Without knowledge of the nascent scientific method, Gilbert needs to place his work within a recognizable context so that his readers will be able to understand the work. At the same time, certain transformations occur in the use and understanding of these rhetorical and poetic tropes that also change our understanding of both poetics and rhetoric.¹⁴⁰ These transformations do not just involve imparting new knowledge to a reading public. Rather, scientific understanding brings with it an entirely new worldview, wherein, as the history of humanistic engagement after the scientific revolution makes clear, everything becomes calculable and subject to methodologies of verification. This is what Heidegger calls the “age of the world picture.” For this to happen,

¹⁴⁰ Patrick Murphy notes how Copernicus rewrites the meaning of a passage from Virgil's *Aeneid* when he cites it as an example of apparent motion. Sailing from the Thracian harbors, Aeneas remarks that the “land and cities vanished” (6). According to Murphy, this vanishing marks the “disappearance of a world,” of both a potential home and an entire horizon of understanding. Copernicus, on the other hand, cites this moment as an argument for heliocentrism. He writes, “For when a ship is floating along in calm weather, everything which is outside her is perceived by those who are sailing as moving by a reflection of that motion, and on the other hand, they think that they are at rest along with everything that is with them. Naturally, the same can happen in the motion of the Earth, so that the whole universe is thought to go round” (3). For Murphy, “working inside of the hierarchical opposition of the real as verifiable and the imaginary as apparent, Copernicus begins to determine the place of poetry within discursive practices dominated by modern science conceived as research. That is, Copernicus' quotation rewrites and restructures prior historical and ideological subtexts, and through such a process, poetic practice is reified as ornamentation” (2). Copernicus' citation of Virgil, like the makers of true points of knowledge in Plato, evacuates the poetry of meaning beyond ornamentation. Copernicus sets into motion a radical displacement of poetic understanding and revision of poetic meaning Patrick Martin Murphy, “The Perplexity of Desire: Representation and Poetic Thinking in Shakespeare's *Venus and Adonis* and *Love's Labor's Lost*” (PhD Diss., University of Illinois at Urbana-Champaign, 1989): 3-7.

however, Gilbert will first use strategies recognizable as humanistic rather than scientific in their nature.

The method of mathematical empiricism that Gilbert develops in his book differs wholly from that of rhetorical and poetic thinking of the period. Empiricism substitutes “a system of rigid and strictly qualitative concepts” for Aristotelianism’s flexible and semiquantitative ones.¹⁴¹ What existed before empiricism was a “*world* of the more-or-less of our daily life” rather than a *universe* of measurement and precision.”¹⁴² Despite Gilbert’s development of a mathematical-empirical method, I will show that he still understands and articulates his work within the horizon of an unpredictable, contingent, and human world. This is the world of rhetoric and poetry, which, in attending to the forces of a dynamic existence, help to train a person’s flexible, historical, and anticipatory capacities. The arts of rhetoric and poetry, as classically understood, are the arts of the particular and the probable.¹⁴³ They attend to the givens, to appearances, in order to give rise to a communal sense [*sensus communis*] rather than to assert facts. The communal sense does not mean a consensus or agreement about facts or interpretations. Instead, the communal sense is the ground upon which agreement or disagreement, consensus or discord are even possible. Gilbert does not just present new facts about the magnet or new ways of confirming the Copernican model of the cosmos; rather, Gilbert’s *De Magnete* is an attempt to create the ground upon which the new method of knowing will be legible, and upon which we can agree or disagree about the facts. Gilbert does this by engaging in a revisionist history of

¹⁴¹ Alexandre Koyré, “Metaphysics and Measurement” in *Metaphysics and Measurement: Essays in Scientific Revolution*, trans. R.E.W. Maddison (Cambridge: Harvard University Press, 1968): 90-91.

¹⁴² Ibid.

¹⁴³ Gadamer, *Wahrheit*, 26-27.

magnetism, articulating his own insights within the world of human need and concern, and by arguing for a metaphysics in which magnetism directly influences human action.

Despite their frequent repudiations of older intellectual traditions, early modern natural philosophers, astronomers, and mathematicians regularly and positively used the intellectual resources or scholasticism, Aristotelianism, rhetoric, etc. While modern historians of science have long sought the traces of those unfashionable ideas in the works of Bacon, Copernicus, Gilbert, Newton, etc., even early modern readers were skeptical that these natural philosophers had managed a complete break with the tradition. In his small book, *On the Study Methods of Our Time*, the Italian humanist philosopher Giambattista Vico identifies such a contradiction at the heart of the *Logique de Port Royal* by Antoine Arnauld and Pierre Nicole. The *Logique* was an extremely influential logic text published in 1662 that took its entire epistemology from Descartes, making it one of the first major philosophical works wholly grounded in modern scientific thinking.¹⁴⁴ While arguing for a wide learning in the arts and sciences, Vico notes that Arnauld “spurns” such a humanistic education. Yet, perceptively, Vico comments that Arnauld’s

treatise on *Logic* is replete with far-fetched and involved illustrations, with difficult examples drawn from the deep storehouses of each discipline. Naturally, these illustrations and examples prove to be unintelligible to the young student, unless he is already more than proficient in those arts and sciences from which those supporting materials are taken, and unless his teacher devotes great efforts and a great deal of eloquent skill to the explanation of them.¹⁴⁵

Vico notices that the *Logique* uses examples and illustrations from a variety of different disciplines, owing likely to Arnauld’s own humanistic education. Without similar training, Vico

¹⁴⁴ Stanfo “Port Royal Logic”, *Stanford Encyclopedia of Philosophy* (<http://plato.stanford.edu/entries/port-royal-logic/>).

¹⁴⁵ *On the Study Methods of Our Time*. Trans. Elio Gianturco. (Ithaca: Cornell University Press, 1990): 20.

contends, a reader of the *Logique* would be incapable of understanding the examples and therefore the main ideas of the text. Arnauld unwittingly assumes of his readers precisely the broad humanistic education that he rejects. More importantly, even if Arnauld were to explain each of his “far-fetched and involved examples” to do so would require “a great deal of eloquent skill.” That is, eloquence is still a necessary part of effective teaching and communication. Vico acknowledges what Arnauld cannot: an understanding of the arts of rhetoric are crucial for negotiating a dynamic world of different people with sometimes radically different horizons of understanding. Destroying that education, denying the necessity of eloquent skill, would likely render these horizons unintelligible.

Unsurprisingly, Gilbert has a similar problem. Like Arnauld, he is skeptical of eloquence. He eschews both classical humanistic learning and rhetorical skill in his “magnetical science.” Gilbert writes,

Wherefore we but seldom quote antient (*sic*) Greek authors in our support, because neither by using greek (*sic*) arguments nor authors greek words can the truth be demonstrated or elucidated either more precisely or more significantly. For our doctrine magnetical is at variance with most of their principles and dogmas. Nor have we brought to this work any pretence of eloquence or adornments of words; but this only have we done, that things difficult and unknown might be so handled by us, in such a form of speech, and in such words as are needed to be clearly understood...¹⁴⁶(iir)

While it is true that Gilbert’s style is largely pared down and restricts itself to precise descriptions of his experiments and terrellas, he does not entirely eschew eloquence. Rather, when making arguments for the necessity of his magnetic research, Gilbert can be both eloquent and evocative. Attempting to justify the need for his work, Gilbert opens his treatise with a bit of scene setting, describing the state of knowledge about magnets in a rich and pointed manner. Harkening, perhaps, to Plato’s allegory of the cave, Gilbert writes, “At an early period, while

¹⁴⁶ Gilbert, *Magnet*, iir.

philosophy lay as yet rude and uncultivated in the mists of error and ignorance, few were the virtues and properties of things that were known and clearly perceived”.¹⁴⁷ His phrase “the mists of error and ignorance,” while perhaps commonplace, is still evocative, and he uses it to describe not just the state of classical learning on magnets but all learning until his moment. We are still not seeing, he says, the true virtues and properties of magnets. He continues a little latter to redescribe those mists as “darkness and deep dungeons”.¹⁴⁸ Not only is Gilbert willing to engage in metaphorical writing, he also does so copiously. His style, when he feels it is appropriate, indulges in excessive description, skipping from one metaphor to the next not only to delight the reader but also to aid his understanding. Gilbert does so because he has a story to tell both about where knowledge has been and where it is going, about how he will work to clear the mists and explode those dungeons, freeing us to the light of new learning.

Of course, as these stories do, Gilbert’s also begins with classical learning. Although Plato, Aristotle, Theophrastus of Lesbia, Dioscorides, C. Plinius Secundus, and Julius Solinus had all applied their massive insight and learning to the problem of the magnet, Gilbert laments, “As handed down by them the loadstone merely attracted iron, the rest of its virtues were all undiscovered” (1). Gilbert’s work will change all of that. But Gilbert’s metaphors and his narrative about errors in magnetic philosophy are not mere ornamentation. Perhaps this is how we should understand his comment that he will not use any “pretence of eloquence or adornment of words.” That is, rather than seeing a contradiction between this comment and Gilbert’s metaphorical language, we should take this as a guide for how to understand that language; it is not mere ornament. Gilbert sees his language, especially his metaphors, as serving a very particular purpose: opening up the possibility of a scientific understanding, a *sensus communis*,

¹⁴⁷ Ibid., 1.

¹⁴⁸ Ibid.

for an audience that does not yet have access to such an understanding. Being able to open up a world is a fundamental aspect of dynamic capacity, and it is a capacity rooted in language. Vico contrasts French and Italian eloquence in a way that might make clear this world-making aspect of dynamism. He writes,

The French are in the habit of praising the kind of eloquence which characterizes their language, i.e., an eloquence characterized by great fidelity to truth and subtlety, as well as by its notable deductive order. We Italians, instead, are endowed with a language which constantly evokes images. We stand far above other nations by our achievements in the fields of painting, sculpture, architecture, and music. Our language, thanks to its perpetual dynamism, forces the attention of the listeners by means of metaphorical expressions, and prompts it to move back and forth between ideas which are far apart.¹⁴⁹

Vico here criticizes French eloquence as being rational, logical, and hewing too closely to the facts. Of course, we may disagree with Vico that this is the fault of the language; rather the fault seems to be with the reigning stylistic preferences rather than with any real paucity of images and metaphors in the French language. Still, because of this stylistic preference, there's nothing dynamic, nothing flexible, about French eloquence, and it, therefore, only reproduces the world as it is. Italian eloquence, on the other hand, is always in motion, creating great works of art, and allowing the world to be seen anew by linking ideas that are very far apart. This is metaphor, and its essence is dynamism.

Commenting on this and related moments in Vico, Ernesto Grassi argues, "Insight into relationships basically is not possible through a process of inference, but rather only through an original *in-sight* as invention and discovery *{inventio}*."¹⁵⁰ This would be the difference between, in Vico's words, inferential French eloquence, and insightful Italian eloquence. Grassi continues,

¹⁴⁹ Ibid., *Methods*, 41.

¹⁵⁰ Grassi, *Rhetoric*, 7.

Once again only insight into “common” or shared characteristics in the above-mentioned sense makes possible the lending of meanings that allow things to appear {*phainesthai*} in a way that is human. Since such a capacity is characteristic of fantasy, it is this, therefore, which lets the human world appear. For this reason, it is expressed originally in metaphors, i.e. in the figurative lending of meanings. [Vico writes,] “Hence poetic wisdom, the first wisdom of the gentile world, must have begun with a metaphysics not rational and abstract like that of learned men now, but felt and imagined as that of these first men must have been, who, without power of ratiocination, were all robust sense and vigorous imagination.”¹⁵¹

Metaphors, then, according to Grassi and Vico, are what originally allow the world to appear *as such*. That is, they introduce a new way of imagining and understanding the world by bringing together often disparate kinds of meanings. The metaphor creates not some fleeting and pleasing image but an entirely new set of relationships that allow the world to appear, allows new things and *phenomena* [appearances] to appear, and for things, relationships to appear differently than before. Metaphor gives us the world anew. Unlike modern scientific thinking, or in this case, French eloquence, metaphor does not prioritize reality over appearance, truth over fiction. Metaphor in the poetic and rhetorical context can tolerate copiousness without having to assert the truth of one metaphor over another. Empiricism, as Koyre avers, insists on “rigid and strictly qualitative concepts” whereas other forms of thinking have concepts that are “flexible and semiqualitative.” This is the essential difference between modern scientific and poetic ways of thinking. However, this is a difference that does not yet apply to Gilbert. His work engages in both rigid and flexible, dynamic ways of thinking.

Grassi concludes by giving primary place to metaphor in human existence and human understanding. He contends, “The metaphor is, therefore, the original form of the interpretive act itself, which raises itself from the particular to the general through representation in an

¹⁵¹ Ibid.

image, but, of course, always with regard to its importance for human beings.”¹⁵² In remaking the world, metaphor always returns that world to us as a matter for human concern. It is a fundamental act of human understanding that also articulates new possibilities for human existence. The scientific or empirical understanding is just one of these possibilities; however, as noted above, the scientific understanding is reified and turned into the measure of all real understanding. If an interpretation fails to live up to science’s standards of verification and certainty, method and reproducibility, then it can be discounted as derivative or even wrong. Furthermore, if we understand Vico and Grassi correctly, then we can see why a rationalist view of the history of science fails to fully grasp its object. Any account of the history of human understanding that asserts that earlier thinkers simply misunderstood or were not precise enough in their descriptions of natural phenomena fails to understand that humans have not always conceived of the world as an object of precision. Rather, understanding is an historical and creative act that relies on metaphor for the development of new possibilities for interpretation. Through their metaphors, the world was simply disclosed differently to earlier societies than it is to us today. And this is also why critics and historians who see Renaissance poetic thinking as an adjuvant to the development of rationalism are ultimately incorrect. While empiricism may have its roots in certain kinds of metaphors, poetic thinking does not insist on those metaphors as necessary truths. While both poetic and scientific thinking may share metaphor-making as an integral resource, the latter one turns its figures into statements of fact. This is one of the key differences between scientific and poetic thinking.

This tension between scientific and poetic thinking takes center stage in Gilbert’s *De Magnete*. As noted earlier, Gilbert is fundamentally opposed to thinking of his work as fictional

¹⁵² Ibid.

or metaphorical. As far as Gilbert is concerned, his descriptions are true and accurate. Like Copernicus, he too prioritizes the real over the apparent. However, unlike Copernicus who is happy not to create a new *sensus communis*—indeed, he writes at the beginning of *On The Revolutions* that “Mathematics is written for mathematicians”¹⁵³—Gilbert wants to create a shared understanding. This is perhaps in part due to his understanding of truth; if the truth is universally and transhistorically valid, then it shouldn’t matter to whom it is addressed. The new science is not satisfied with making the truth palatable to the vulgar rout by cloaking it in shadows. Rather, Gilbert would prefer to forge a new horizon, one which would allow more people to see the world as he does. This is accomplished through a scientific method that prioritizes truth over appearances; however, even a procedure and a set of concepts are insufficient to fully reform an understanding. Gilbert, like so many others participating in the scientific revolution, must first disclose the world as a possible object of method. Teaching people how to see something as something else is dynamism, and Gilbert accomplishes this revision through metaphor and narrative.

The way Gilbert develops and achieves his scientific horizon is complex and deceptively simple. His first chapter, “Ancient and Modern Writings on the Loadstone, with certain matters of mention only, various opinions, & vanities” appears at first to be a compendium of the various errors supposedly learned men have made in their investigations and writings about the magnet. Indeed, however, his purpose is to open up a space for experiment. In the chapter, he contrasts two kinds of repetition. The first, the book-learning of ancient and modern philosophers, is depicted as little more than a storehouse of unexamined falsehoods. These writers are wrong precisely because they repeat the words of the ancients without testing them for their validity.

¹⁵³ Copernicus, *Revolutions*, 9.

The second kind of repetition, experiment, is depicted as truer precisely because in repeating an action, one can test whether it works. Reason guided by experiment is key in this chapter for acquainting readers with Gilbert's scientific horizon. When writing about the origins of knowledge, he writes, "But no sooner had the talents and toils of many brought to light certain commodities necessary for the use and safety of men, and handed them on to others (while at the same time reason and experience had added a larger hope), than a thorough examination began to be made...of all things" (1). There is at the very beginning a glimmer of hope. Natural commodities have been discovered, improving the lives of men, and "reason and experience" seem to be guiding man to even better discoveries. Yet almost immediately man takes a step in the wrong direction. After the discovery of the magnet, "many philosophers as well as physicians of ancient days discoursed of it, in short celebrated, as it were, its memory only...As handed down by them the loadstone merely attracted iron, the rest of its virtues were all undiscovered" (1). This appears at first glance to be a standard dismissal of classical learning. The ancients "discoursed" about the magnet without bothering to discover its many properties, and by extension they failed to learn the many different uses to which the magnet could be put. Classical learning, therefore, becomes stunted and stultifying. But the terms of Gilbert's critique reveal more than just the standard condemnation of humanistic learning. He makes repetition the cornerstone of his dismissal by suggesting that these ancient philosophers celebrated only the "memory" of something once discovered, a memory which is "handed down" through the ages. This is repetition without a difference, knowledge which, because it does not return to its source, stagnates. This is the axis around which Gilbert's recasting of our understanding turns. Gilbert recognizes that repetition of a kind is indeed necessary to making knowledge. Yet he must carefully dissociate useless repetition, book-learning, from the more profitable repetition of

experiment to project a world in which experiment is meaningful and understood. These metaphors help Gilbert to suggest the positive possibilities of a certain kind of repetition, introducing along the way his mathematical-experimental method.

He deploys a set of metaphors and images instead of arguments about the differences between the two kinds of repetition precisely because he needs to show the positive possibilities of repetition, creating as it were a new world, a new way of letting that world appear. To put it another way, as Paul Ricoeur has posited,

Recourse to metaphorical redescription is a consequence of the impossibility of obtaining a strictly deductive relationship between *explanans* and *explanandum* – one can hope at most for an ‘approximate fit’...According to Mary Hesse in *Models and Analogies in Science*, there is no rational method for complementing the correspondence rules in a purely deductive way and for formulating new observational predicates. Predication of new observational predicates requires a displacement of meanings and an extension of primitive observational language; so only the domain of the *explanandum* can be redescribed in the terminology transferred from the secondary system.¹⁵⁴

Stipulating new definitions, then, is an inadequate way of getting people to grasp a phenomenon. Accordingly, using deduction can never help transform one way of seeing the world into another. Metaphor, on the other hand, allows an extension of meaning, creating a bridge across which the understanding can travel to see the world *as* something else. Metaphor uses the resources of something understood—in this case, repetition as book learning—to help us see and understand something new—repetition as experiment.

Gilbert refocuses his animus against classical repetition and directs it to book learning. Books decoupled from experience, he argues, are the greatest source of error. He writes,

the errors have been sedulously propagated, and have gained ground (like ill weeds that grow apace) coming down even to our own day, through the writings of a host of men, who, to fill out their volumes to a proper bulk, write and copy

¹⁵⁴ Paul Ricoeur, *The Rule of Metaphor: Multi-disciplinary studies of the creation of meaning*, trans. Robert Czerny (Toronto: University of Toronto Press, 2008), 242.

out pages upon pages on this, that, and the other subject, of which they know almost nothing for certain of their own experience. Such fables of the loadstone even Georgius Agricola himself, most distinguished in letters, relying on the writings of others, has embodied as actual history in his books *De Natura Fossilium*.

Again this passage builds its evocative imagery around familiar terms. Reproduction, a kind of repetition, of printed material is like a weed, and writing is depicted as just a means of padding one's reputation by servilely copying materials from the works of others to fill books. The weed, moreover, grows rapidly and without any cultivation, that is, without any concern for other vegetation, its proper limits and boundaries, or for what role it might serve for man. Unlike the cultivated garden that produces vegetables for nourishment or flowers for beauty, the weed grows out of control, strangling the other life in the garden. A literary reputation is the result of repetition of the most meaningless sort, divorced from experience, and here we see Gilbert introduce the priority of truth and reality over fiction. He opposes "actual history" to the "fables" of Agricola. It is not through a process of ratiocination that Gilbert constructs his new understanding.

Gilbert's strategy of redefining terms through imagery and metaphor is representative of neither a conservative or radical history of science. While the metaphor uses the resources of a different epistemological order, it does not do so in order to tie its "knowledge claims to a classical or pre-classical tradition."¹⁵⁵ Nor does Gilbert's representation of the past deprive it of its authority. Rather, while the terms of Gilbert's metaphors may introduce of new way of seeing that past, some of the past's meaning is still preserved in that metaphorical relationship, becoming the vehicle through which a new understanding is possible. Repetition is transformed from a replacement for experience to a process that demands experience. Gilbert steps into this

¹⁵⁵ Pumfrey, *Magnetic*, 30.

weedy field as a gardener, pulling up the weeds, and breathing new life into the garden. He writes,

But after the magnetick nature shall have been disclosed by the discourse that is to follow, and perfected by our labours and experiments, then will the hidden and abstruse causes of so great an effect stand out, sure, proven, displayed, and demonstrated; and at the same time all darkness will disappear, and all error will be torn up by the roots and will lie unheeded; and the foundations of a grand magnetick philosophy which have been laid will appear anew, so that high intellects may be no further mocked by idle opinions.¹⁵⁶

We should notice, first, that Gilbert calls his work a “discourse” which has been “perfected...by labours and experiments.” He retains here some of the terms of the knowledge practices which he earlier criticized. The difference between this discourse and the discourse of the classical writers is that it uses a new kind of repetition—experiments. Experimentation lays the fertile ground for new kinds of knowledge. It is also important here to see how the image of the gardener who cares for, arranges, and weeds his garden is a metaphor for the experimenter. Like the experimenter, the gardener carefully arranges his plants according to reason, making sure that they don’t deprive each other of water, nutrients, space, and sun. The gardener maintains the health of his garden with an eye toward the harvest and the long-term health of his people. So when Gilbert depicts the experimenter as such, he is not merely suggesting that he will get rid of bad opinions. Gilbert clearly articulates his vision of the experiment within the horizon of human concern, that is to maintain the ground for human possibility. This constitutes the ultimate horizon of knowledge, allowing to see and plan for what lies ahead of us. The repetition of book-learning, because it is wild and unruly, happens without regard for the people which it is ostensibly meant to support and nurture.

¹⁵⁶ Gilbert, *Magnet*, 7.

This, finally, is the key. Gilbert understands knowledge as inextricably contextual. This is not a kind of relativism or nihilism, as he clearly believes in an objective and knowable reality. However, the knowledge of that reality must always serve human existence, supporting it, improving it, and allowing it to flourish. In this regard, the experimenter is a good gardener. Yet the cultivation of this garden requires the experimenter to move constantly between two poles, a pole of human necessity and understanding, and a pole cemented firmly in the objective truth. Reason and understanding are strung between these two poles, whose counterweight keep each other suspended. This is precisely why Gilbert must insist on making his experiments reproducible, repeatable, and why repetition is a key term in his history of science. His experiments are also a matter for public concern both in that they serve the public but also in that he feels the public can and should perform his experiments, repeating them to validate his results. In this way, Gilbert has provided a foundation upon which to build a scientific *sensus communis*. Gilbert, like so many others, cites the limits of human understanding as a reason why we need experiments, a process of reason derived in part from the natural, unwavering motions of the universe. He writes,

For without that motion, by which daily the revolution is performed, all earthly things around is would ever remain savage and neglected, and more than deserted and absolutely idle. But those motions in the sources of nature are not caused by thinking, by petty syllogisms, and theories, as human actions, which are wavering, imperfect, and undecided; but along with them reason, instruction, knowledge, discrimination have their origin from which definite and determined actions arise, from the very foundations that have been laid and the very beginnings of the universe; which we, on account of the infirmity of ours minds, cannot comprehend.¹⁵⁷

To prevent society from becoming indolent and falling into savagery, we must balance our senses with reason—experiment which has its origin in the same stable motions of the universe.

¹⁵⁷ Gilbert, *Magnet*, 210.

Gilbert's account of objectivity moves within a larger metaphysical framework that sees all things as intimately connected. The metaphysical mythology is the final transposition, the last metaphorical interpretation which provides the horizon of understanding of Gilbert's experimental method. Reason, the argument runs, can make the universe the object of objective methodological, experimental observation because the same regular, unchanging forces that animate the universe also animate our reason.

It is in this lending of meanings, these metaphors, that Gilbert shapes a new horizon of understanding. Gilbert's science is not fully encompassed by his methodological empiricism. Gilbert recognizes that understandings are not shaped by reason alone, and that for his scientific activities to be meaningful, they must attend to human existence. Metaphors provide Gilbert's scientific activities with pertinence and relevance. We might be tempted to say that in Gilbert we can see the conflict of two world views. On the one hand, Gilbert is a strident defender of a methodological and mathematical empiricism. On the other, he consciously engages in and asks his readers to engage in a thoroughly rhetorical and dynamic understanding of the world. It would, however, be incorrect to call these "world views" in the modern sense. For us moderns, this is an untenable contradiction that threatens to resolve itself into rhetorical cynicism, but for Gilbert and his renaissance audience, his method could still be comfortably couched within a framework of the verisimilar and the *sensus communis*. While even Gilbert's own interpretation of his work, especially in his criticisms of the fictional, sometimes threatens to overthrow the easy reciprocity between method and rhetoric, stasis is restored through his concern with creating a *sensus communis*. Our best understanding of Gilbert's work is not to say that he shared the same basic goals as the poets but, instead, to suggest that science and poetry up to this point still worked within the same horizon of understanding. Of course, as many contemporary critics and

philosophers, as well as early modern poets have pointed out, the rise of modern science soon darkens this horizon.

In this chapter, I have hoped to show how one of the only experimentalists in England in the late sixteenth century understood his work in relationship to poetry. While he sees a relationship between the two, as this final section suggests, ultimately, Gilbert thinks his work is something very different from poetry and rhetoric. Gilbert's work on magnets contains much of what we might recognize in modern science, and thus functions as a touchstone for Sidney and Shakespeare in this dissertation. If scientific truth is, as Gilbert argues, non-fictive and concerned with how our statements correspond with reality, then in reaction to this, how do Sidney and Shakespeare understand their own poetic projects? What work might poetry do if science is now being championed as the realm of physical truth?

Chapter II: Sidney's Practical Poetics: Prudence, Skepticism, and Epistemology

I. Introduction

Recent critical conversations have placed Sidney's poetics within the long development of modern epistemology and modern science. Critics such as Heninger, Robinson, Turner, and Spiller feel that not only is Sidney interested in the problem of what knowledge means and how we come to know something, but that Sidney believes poetry can be a kind of knowledge-making practice.¹⁵⁸ According to Forrest G. Robinson, epistemology is concerned with the "what" and "how" of knowledge.¹⁵⁹ That is, what does it mean to know and how does knowing happen. The refinement and convergence of experimental and mathematical methodologies that give rise to the scientific revolution also limit the meaning of knowledge to "recognizing similarities, regularities, and conformities to law which would make it possible to predict individual phenomena and processes."¹⁶⁰ In other words, far from coming to recognize higher formal truths, knowledge is that which allows man to say in advance how a phenomenon will happen and which processes govern that happening. The fundamental characteristics of knowledge are regularity and predictability. If one understands knowledge in the epistemological sense, then it is hardly a leap to imagine that Sidney's *Defence of Poesy* anticipates the concerns of modern science. Sidney, after all, uses the words to know, knowing, knowledge, etc. at least 85 times in his essay. What is knowledge if it is not the same in every context? Yet despite Sidney's obvious

¹⁵⁸S.K. Heninger, *Sidney and Spenser: The Poet as Maker* (University Park: The Pennsylvania State University Press, 1990). Forest G. Robinson, *The Shape of Things Known: Sidney's Apology and its Philosophical Tradition* (Boston: Harvard University Press, 1972); Henry Turner, *The English Renaissance Stage: Geometry, Poetics, and the Practical Spatial Arts 1580-1630* (Oxford: Oxford University Press, 2006); Elizabeth Spiller, *Science, Reading, and Renaissance Literature: The Art of Making Knowledge, 1580-1670* (Cambridge, Cambridge University Press, 2004).

¹⁵⁹ Robinson, *Shape*, 1.

¹⁶⁰ Gadamer, *Wahrheit*, 10.

concern for knowledge, it remains to be seen whether he understands knowledge as epistemology. My contention, however, is that Sidney does not share this epistemological understanding of knowledge. What remains then is to discover how Sidney understands knowledge and knowing, and how this might change our understanding both of his poetic project as well as his relationship to modern scientific thinking.

In this chapter, I will argue that Sidney consciously rejects the epistemological leveling off of the meaning of knowledge, and rather than developing a proto-epistemological poetics, he articulates a sense of poetics as dynamic understanding. Sidney does not respond directly to the contemporary debates about the meaning of the hypothesis, the experiment, mathematics, etc. His interest in ethical engagement, rather, is what spurs his investigation of poetic meaning. Sidney uses the resources of Pyrrhonist skepticism—which undergoes a revival in the period—to suspend the question of knowledge.¹⁶¹ This, I believe, is a direct reaction to two conflicting strains of early modern thinking. First, Sidney is responding to the rediscovery and revival of interest in Aristotle's works, especially his *Ethics*. Sidney's debt to Aristotle is well-attested in his letters and elsewhere. To his brother Robert, he writes, "I think you have read Aristotle's *Ethics*: if you have, you know it is the beginning and foundation of all his works, the good end to which every man doth and ought to bend his smallest and greatest actions."¹⁶² The other strain of thinking is the context of responses to the *crise pyrrhonienne* of the mid-sixteenth century.

¹⁶¹ The skeptical work of Sextus Empiricus, AD 160 – 210, was rediscovered in the Renaissance, and made available in Latin translation by the humanist Henri Estienne in 1562 and Gentian Hervet in 1569. Michel de Montaigne was the biggest proponent of Pyrrhonist skepticism in the Renaissance, but his influence could be felt in the works of Erasmus and Luther as well. See Victoria Kahn's *Rhetoric, Prudence, and Skepticism in the Renaissance* (Ithaca: Cornell University Press, 1985): 46-54 and chapter 5, as well as Richard H. Popkin, *The History of Skepticism from Erasmus to Spinoza* (Berkeley: University of California Press, 1979), especially pages 1-65.

¹⁶² Sir Philip Sidney, *Defence*, 284.

Pyrrhonist skepticism calls into radical question the traditional link between rhetor and truth. Is it possible, the early modern Pyrrhonist asks, for the orator to persuade one to the truth? This question introduces a fundamental problem into early modern literary and rhetorical understanding. Victoria Kahn writes, “while an author may accept the argument of Pyrrhonism and develop a textual rhetoric that looks forward to a modern formalistic concept of literature, the author who, like the humanist, desires to educate and persuade his reader must devise a substitute for humanistic rhetoric.”¹⁶³ When confronted with the Pyrrhonist crisis, the semi-Aristotelian Sidney faces a problem of the convergence of ethics and rhetoric. Aristotle’s *Ethics* contends that political science, understood as a kind of epistemology, is the ground upon which any ethics is possible.¹⁶⁴ Sidney’s letter to his brother Robert clearly demonstrates that he understands Aristotle epistemologically, a point to which I will later return. The problem then for Sidney is how to reimagine ethical persuasion in the face of a Pyrrhonism that throws into radical question the possibility of persuading to the good. Sidney’s answer, I believe, is poetry. In refashioning a Horatian and Aristotelian poetics around a skeptical understanding of the relation of poetry to truth (poetry “doth not affirm”), Sidney revives the possibility of an ethics. He replaces Aristotle’s epistemological political science with a skeptical poetics to form a new ground for ethical action.

In his lengthy study of Sidney and Spenser’s poetics, S.K. Heninger contends that “Insufficient attention has been paid to Sidney’s empiricism, to his insistence that all thought must begin by observation of this ‘too much loved earth.’”¹⁶⁵ While the poet and theorist warns us against loving our mundane and fallen world too much, according to Heninger, Sidney feels

¹⁶³ Kahn, *Rhetoric*, 22.

¹⁶⁴ Aristotle, “Ethics” in *The Basic Works of Aristotle*, ed. Richard McKeon. (New York: The Modern Library, 2001): 936.

¹⁶⁵ Heninger, *Maker*, 282.

that our earthly home is “still worthy of approving scrutiny.”¹⁶⁶ Heninger sees in Sidney’s various comments about the relationship of the poet to the real and natural world a kind of proto-empiricism. The empiricist, according to Heninger, is unlike the Platonist who denigrates the senses and their perceptions in favor of a truth located in an ideal world. For the empiricist, those senses, no matter how limited and fallen they may be, still provide insights that are both worthy of and that indeed demand our consideration and scrutiny. The empiricist believes that our apparent world has more to tell us about the truth than the supposed real world of idealism. Sidney’s comments, then, that the poet must “build upon the depth of nature” suggest to readers like Heninger that “The poet’s fiction must maintain a *manifest relationship* with our actuality.”¹⁶⁷ Heninger does not define, as indeed Sidney does not, what the nature of this manifest relationship is, but still he calls the relationship empiricist.

Yet Heninger sees in Sidney a complementary idealism. Because the poet disdains “to be tied to any such subjection” to nature, unlike the empiricists, then, he is an idealist. For Heninger, Sidney’s idealism means,

Through use of his mental faculties—in terms of rhetoric, by “the vigour of his own invention”—the poet enhances the data observed by his external senses, universalizes it, and produces poetic images which because of their universality have greater validity than the individual items of physical nature. He creates “another nature,” a meta-reality, a world closer to God’s design than the corporeal universe because it transcends the partiality and accidents of a particular existence.¹⁶⁸

So, although the created world and our perceptions of it are worthy of our inquiry, finally, the real, universal, and holy world transcends the mundane. Only the ideal poet can enhance the world we encounter, creating “another nature” to move us beyond the fallenness of our existence.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid., 283, italics mine.

¹⁶⁸ Ibid., 293.

Although Sidney, according to Heninger, “Like the scientists...sought to take into account the new stirrings of empiricism,” his poetic theory is only partially empiricist. Sidney’s Christian and ethical world view require him, finally, to deny the priority of the sensible world. His empiricism, Heninger believes, provides only a basis for an idealist poetics.

Elizabeth Spiller expands upon this idea and argues that Sidney’s poetics is fully empiricist; however, her understanding of empiricism is grounded in a kind of idealism. She argues that for Sidney and William Gilbert, “knowledge is not derived from or consist (*sic*) in a collection of facts; it is a ‘virtue’ that is instead produced experimentally through a kind of practice.”¹⁶⁹ That practice is fictional world-making. Sidney’s fictional golden worlds are analogous to experiments that create “a controllable environment as a means of testing the validity of certain predetermined propositions,” and she contends that, “As with experimentation, poets also want to know whether such artificial forms of representation retain any connection to the real.”¹⁷⁰ Fictional worlds are empirical insofar as they provide microcosms of larger political worlds, such as England. Within those worlds, artists can manipulate the various kinds of relationships to explore what works and what seems to be most virtuous. Virtue, of course, is what is most real for Sidney according to Spiller. Poetic representations, because they do not attempt to recreate the world as it is but to remake it as it should be, avoid the pitfalls of the other arts: 1) they make no untrue propositions as they aren’t limited to the particulars of a fallen world, and thus, 2) they aren’t limited to the truth of the transient, earth-bound natural world. This is key for Spiller’s understanding of Sidney’s empiricism. She argues that Sidney understands poetry as “a kind of experiment to the extent that it abstracts the particular into a

¹⁶⁹ Spiller, *Science*, 28.

¹⁷⁰ *Ibid.*, 31, 32.

universal truth.”¹⁷¹ If Sidney is indeed empiricist in this sense, as Spiller contends, then it is an inverted empiricism. In its most basic sense, empiricism means that knowledge, if it can be gained at all, is gained through sense experience. Sidney’s empiricism, however, denies the sensory realm—the particular—any claim to knowledge because it is transient. Creating situations that can be abstracted into universal and ideal principles is, in Spiller’s interpretation, the only way to gain virtuous knowledge. This is, she argues, the very form of early empiricism that we see in the works of experimentalists like William Gilbert. Their experimental manipulations create knowledge precisely because they move us finally into the realm of “real” virtue. This is the meaning of knowledge for many early modern thinkers, according to Spiller, and bridges the gap between poetic and scientific practice.

Henry Turner agrees with Spiller that Sidney’s poetics are experimentalist and empiricist. He writes,

poesy achieves a proto-‘scientific’ quality for Sidney: in his essay [*The Defence of Poesy*], we may observe a shift from the Neo-Scholastic understanding of *scientia* as certain knowledge of metaphysical causes to an empirical meaning that anticipates several modern scientific presuppositions. Poesy has an analytic value rather than merely a prescriptive, moral one: it assists in the understanding of human action—its motivations, means, ends, and general modes or patterns—and in this way Sidney positions poesy as an extension of ethical philosophy and even of what we would today call political science.¹⁷²

Poesy generates knowledge in the same way an experiment does: by generating an artificial situation—the poetic invention—the poet can contrive circumstances that reveal general causes or principles. Turner continues, “For Sidney, poesy furnishes insight into natural *processes* that have hitherto lain undiscovered: poesy is a fully analytical mode of knowledge because the vivacity of its images allow us to discern the principles of a *natura naturans* that lie secret and

¹⁷¹ Ibid., 38

¹⁷² Turner, *Stage*, 89.

inaccessible.”¹⁷³ Enargia, a key figure for Sidney’s poetics, brings to life the situations of social relationships so precisely in the contrived and artificial poetic space that we are able discern principles of human interaction that are not otherwise discernable by even the most astute observers. In this way, according to Turner, Sidney’s poetic practice is social and political science *avant la lettre*. That is, the artificiality of the poetic space allows for experimentation and empirical observation in a manner that is simply unavailable to the social and political sciences. In this way, it may be science in its purest form.

While the meaning of empiricism changes slightly and significantly in these works, there is a clear consensus that Sidney believes that poesy can take the insights gleaned from particulars to make universal judgments. Sidney’s poetic theory, then, is also an epistemology. It tells us both what knowledge is—a universal truth statement—and how it may be achieved—constructing artificial situations from which more general conclusions might be deduced. While I don’t disagree that Sidney was at some level concerned with the problem of knowledge, I do not believe that a theory of knowledge was Sidney’s aim in the *Defence*. Nor do I believe that Sidney thought that poesy produces knowledge—certainly not in the form that these critics understand knowledge. The focus of this chapter will be to argue that Sidney’s poetics avoid the problems of epistemology for two reasons. First, he situates his poetics within the framework of Pyrrhonist skepticism, which, unlike other forms of skepticism, does not ask or prescribe what can or can’t be known. Academic skepticism, the skepticism with which we are most familiar, argues that knowledge is simply beyond human capacity, that we cannot know. Pyrrhonist skepticism, on the other hand, sees this position as dogmatic because the Academic claims to know that he cannot know. The Pyrrhonist does not claim to know what can and cannot be known. In this way, the

¹⁷³ Ibid., 110.

entire problem of knowledge is suspended, and the Pyrrhonist is forced instead to attend to what is given, to the phenomena as they present themselves, rather than what the Pyrrhonist thinks underpins those phenomena. Rather than suggesting how we might come to know things, Sidney instead sees poetry as a kind of understanding. If knowledge is understood to be certainty about the laws and principles that underpin the workings of both the natural and social worlds—a definition that operates in the Renaissance from at least the time of Copernicus—then the skepticism of Sidney’s poetics precludes his poetics from being a theory of knowledge.¹⁷⁴ Second, if knowledge is understood to be universal and ever-present, then Sidney’s contention that poetry is about what could and should be also prevents his poetics from being an epistemology. Sidney develops in his essay a theory of the temporality of understanding. Poetry as fiction concerns itself with the possible and not the actual, and thus can’t be said to be a kind of knowledge or even foreknowledge. Knowing, for Sidney—as I will show—means something closer to “being familiar with,” a sense of knowing expressed in other languages with a separate verb: *connaître*, *noscere*, and *kennen* in French, Latin, and German—Sidney was fluent in the first two languages and had at least studied the third—as opposed to *savoir*, *scire*, and *wissen*, which all express the sense of knowing something as a fact. The twentieth century philosopher Hans-Georg Gadamer glosses the first meaning of knowing in his essay, “The Universality of the Hermeneutical Problem.” He writes,

In philosophy we say: how do we arrive at a general concept, but even words in this sense are obviously general. How does it happen that they are “words,” that is, that they have a general meaning? In his first apperception, a sensuously equipped being finds himself in a surging sea of stimuli, and finally one day he begins, as we say, to know something. Clearly we do not mean that he was previously blind. Rather, when we say “to know” [*erkennen*] we mean “to

¹⁷⁴ Copernicus is happy to deny appearances in service of a theory that is more mathematically sound. See the “Commentariolus”, 59, and my discussion in the previous chapter.

recognize” [*wiedererkennen*], that is, to pick something out [*herauskennen*] of the stream of images flowing past as being identical.¹⁷⁵

This means that there’s nothing fixed or certain about this kind of knowing. Rather, because it exists in a “surging sea of stimuli” it is transient and therefore subject to change. It requires only a temporary sense of identity. This kind of knowing as understanding, Gadamer argues, is what “makes possible the venture into the alien, the lifting up of something out of the alien, and thus the broadening enrichment of our own experience of the world.”¹⁷⁶ Sidney’s contention that poesy shows us what could and should be, I will argue, is just this venturing out into the alien. Accordingly, Sidney’s concern for the possible rather than the actual may in fact mark his poetics as anti-epistemological rather than epistemological.

II. The Skeptical *Defence*

In her excellent attempt to rehabilitate Sir Philip Sidney’s *Defence of Poesy*, Margaret Ferguson, citing J.L. Austin, says, “[d]efenses occur...when there has been ‘some abnormality or failure in the status quo.’”¹⁷⁷ She continues, “[a]t the beginning of his oration, Sidney implies that his ‘defense of poor poetry’ is an effort to remedy the effects of a fall, a disruption of order”, but while her analysis does a wonderful job pointing out the effects of this “disruption” on the internal workings of the *Defence*, she does not—and this is by no means a failure of her text—indicate what the disruption might be, and how Sidney’s work might be intervening in that disruption. Instead of thinking about the early modern period as a beginning, as we are wont to do, we might consider its dominant features as the expression of a transition refiguration of one

¹⁷⁵ Hans-Georg Gadamer, “The Universality of the Hermeneutical Problem” in *Philosophical Hermeneutics*, trans. David E. Linge (Berkeley: University of California Press, 2008): 14.

¹⁷⁶ *Ibid.*, 15.

¹⁷⁷ Margaret Ferguson, *Trials of Desire: Renaissance Defenses of Poetry* (New Haven: Yale University Press, 1983): 141.

disparate set of large scale characteristics—tropes, social structures, metaphysics—to another. It appears that in the period a critical mass of insights begins working itself out in ways that will dramatically affect nearly all aspects of human existence and activity, if not immediately, then within a few generations. Of the most important of these transitions is the scientific revolution. Along with establishing new methods and postulates for studying and understanding the natural world, the scientific revolution ushers in a new concern for the meaning and possibility of knowledge, as well as a new understanding of truth. The critics mentioned above are right to notice Sidney's apparent concern with epistemology, but not, I will argue, for the reasons they have articulated. Rather, if Sidney is interested in epistemology and the nature of truth, it is precisely because he registers these changes—consciously or not—as a disruption. What Sidney actually knew of Copernicanism is likely very little, but there is the suggestion that he heard a debate between the Copernican Giordano Bruno and others at Oxford University in 1583. Others have suggested that he knew and corresponded with Bruno, but the evidence is scant.¹⁷⁸

The truth and methods of the burgeoning new sciences eclipse and occlude poetic truths, a problem which Sidney acknowledges, if obliquely, in his *Astrophil and Stella*. In the seventh song, Astrophil laments those whose senses do not allow them to see how beautiful Stella is. Yet, while ostensibly a love song, the song also seems to lament a certain kind of leveling off of poetic meaning. Astrophil sings,

¹⁷⁸ Dorothy Stimson, *The Gradual Acceptance on the Copernican Theory of the Universe* (New York: Trade Selling Agents, The Baker & Taylor Co, 1917): 50. Angelo Pellegrini surveys the available documentary evidence, and concludes that while we can say for certain that Bruno and Sidney once met, the claims that they were friends and carried on a long-standing correspondence are overstated. He contends, “a reasonable interpretation is that during the early days of his residence in England [Bruno] met Sidney and received from him a courteous offer of his ‘good offices.’ We are not warranted in saying that beyond a first meeting the two men ever saw each other again. “Bruno, Sidney, and Spenser,” *Studies in Philology* 40.2. (1943): 129. This does not preclude the possibility that Sidney was at least familiar with Copernicanism from Bruno's contact with his circle, but all claims beyond this remain speculative.

Who have so leaden eyes, as not to see sweet beauty's show;
 Or seeing, have so wooden wits, as not that worth to know;
 Or knowing, have so muddy minds, as not to be in love;
 O, let them see these heavenly beams, and in fair letters read
 A lesson fit, both sight and skill, love and firm love to breed. (7-12)

Astrophil here equates the inability to see and understand beauty with having “leaden eyes,” “wooden wits,” and “muddy minds.” The alliteration underscores the effects of the metaphors, drawing our attention to the materiality of the language. But Astrophil's point is that there is something in beauty that exceeds that base materiality, and this is true both of love and of poetry. Astrophil is a Platonic lover, that is, a lover whose love moves beyond Stella's physical beauty to her spirit and her virtue. He resists the vulgar interpretation of love as merely lust for her physical body. So too with poetry: poetry is much more than just words on a page, and human existence is not limited to its material and corporeal facts. Any understanding of human existence that reduces it to mere materiality, to mechanical and physical structures, misses the point. But this reduction of meaning is what happens when scientific thinking and methodology come to dominate all modes of investigation and understanding. Sidney's poetry and his *Defence* register an anxiety about this change and seek to resist it. In this way, Sidney does not embrace the methods of epistemology; rather, he seeks a way to resist its totalization of human experience, to find a place for poetry beyond empiricism and experimentalism.

Though the scientific worldview to which Sidney is responding is complex and has a long history, there are a few fundamental characteristics that remain fundamentally true of modern science whether in the 16th century or the 21st. Martin Heidegger sees these elements developing within the tradition of Western metaphysics. In his essay on “The Age of the World Picture”, Heidegger attempts to provide a kind of history of the development of the main features of modern metaphysics. While his story begins with Descartes, he indicates in his opening sentence

that this is not the whole story, “[i]n der Metaphysik vollzieht sich die Besinnung auf das Wesen der Wahrheit.”¹⁷⁹ The main verb, “vollzieht,” which is translated by William Lovitt as “accomplished,” indicates something about Heidegger’s historical methodology. While “accomplished” is a perfectly acceptable English translation, the German verb “vollziehen” also suggests a “pulling (together) to completion.” Heidegger understands then the history of modern metaphysics to be the result, not just of the work of Descartes, but of many ideas, insights, and other changes coming together. While we may not understand everything in the Renaissance within the context of the history of metaphysics, Heidegger’s historiography may be particularly fruitful for many of the narratives of change occurring in the period. Given the historiographical framework provided by Ferguson and Heidegger, the question remains as to what disruption Sidney’s *Defence* is responding. One of the possible answers is within the history of science and its attendant metaphysics. According to Heidegger, between Copernicus and Descartes, something happens to the understanding of the work of art and its relation to truth that results in the “event of art’s moving into the purview of aesthetics. That means that the art work becomes the object of mere subjective experience, and that consequently art is considered to be an expression of human life.”¹⁸⁰ This, according to Heidegger, is part of the final stage of the accomplishment of modern metaphysics. The relationship that Heidegger establishes between the rise of the new science and the changes that it brings for our understanding of the work of art help us draw a link from Sidney’s *Defence* to the scientific revolution. If art changes with modern science as Heidegger suggests it does, then it stands to reason that Sidney may have experienced this change as a disruption. The question at stake for Sidney “what can we say about

¹⁷⁹ “In metaphysics, a reflection on the essence of truth is accomplished” translation mine. Heidegger, “Zeit”, 75.

¹⁸⁰ Heidegger, “Age”, 116.

the work of art?" Sidney's response to this problem uses the strategies of Pyrrhonist skepticism to perform a kind of phenomenology of the work of art and of our thinking about the work. His reflexive phenomenological praxis, while at the same time a reaction to a perceived disruption, revises traditional understandings of poetic meaning. Sidney's skeptical poetics conceives of poetic meaning as an interplay between the fictional world and the world of the reader, denying the priority of ideal Platonic meaning, and instead emphasizing poetry as a way of understanding and changing the world rather than a way of knowing it.

Sidney's *Defence of Poesy* employs the strategies of Pyrrhonist skepticism, as they are found in various places in the early modern period.¹⁸¹ While the link between Sidney's work and skepticism has been explored or at least hinted at in a few places, to my knowledge, no one has written extensively about Sidney's potential debt to Pyrrhonism. Victoria Kahn mentions the problem briefly in her work *Rhetoric, Prudence, and Skepticism*. She writes, "In the earlier period, the poet's non-assertion, in Sidney's terms, is no hindrance to his ability to educate the reader's prudential judgment."¹⁸² She explicitly links Sidney's statement that the poet "doth not affirm" with the non-assertion of Pyrrhonism. Later, Kahn argues, "Reading would ideally be both the cause and the effect of prudence, but Sidney is skeptical about the force of this ideal. For this reason, he repeatedly calls our attention to the hypothetical nature of his defense and to his ambivalence about poetry's ability to persuade."¹⁸³ As I will suggest later on, following the work of Margaret Ferguson, Sidney's rhetoric undermines the *Defences'* arguments, leaving the reader to wonder just what effect those arguments are meant to have, and whether we should

¹⁸¹ Here I am thinking primarily of Montaigne's "Apology for Raymond Sebond," but Richard Popkin's history of skepticism includes many others who employed the strategies of Pyrrhonism for various purposes. Erasmus in his debates with Luther is one prime example, and Rabelais in his *Gargantua and Pantagruel*. See Chapter 2 of Popkin's book.

¹⁸² Kahn, *Rhetoric*, 20.

¹⁸³ *Ibid.*, 189.

think of them as arguments. This is a standard tool of Pyrrhonism, cancelling out judgments by opposing them to opposite judgments. Richard Meek, in an article about ekphrasis in *The Rape of Lucrece* and *The Winter's Tale*, writes,

Sidney suggests that we should take a more skeptical approach to literary works, and realize that the things poets describe are “but pictures what should be” rather than actual events or objects that have a prior independent existence. Sidney argues that we should take literary works for what they are—speaking pictures—rather than thinking they are real, or accusing them of lying. But perhaps the notion of ekphrasis—and the issue of suspension of disbelief—is too complex to be contained within the simple dichotomy of lying or not lying. Ekphrasis asks us to consider a specific question about our suspension of disbelief: namely, the extent to which the interplay between different types of mimesis within literary texts complicates the reader’s ability to tell the difference between art and reality.¹⁸⁴

Meek also links Sidney to skepticism, though he does not develop this connection. Sidney’s skepticism, according to Meek, forces us to consider not just to what a literary text might refer but also what the meaning of that reference is, and how the potential blurring between real and fictional complicates our understanding of both. One critic, however, has explicitly linked Sidney to skepticism but not of the Pyrrhonist variety. A.C. Hamilton argues that Sidney’s attack on the “vanity of all other arts and sciences” was influenced by Henricus Cornelius Agrippa’s *De incertitudine et vanitate scientiarum et artium*, a skeptical text.¹⁸⁵ Hamilton’s claim rests not on any direct evidence—nowhere does Sidney explicitly acknowledge Agrippa’s intellectual contribution to the *Defence*—but on certain similarities between the two texts. “Sidney and Agrippa”, Hamilton writes, “agree in attacking the uncertainty of the arts and sciences which only offer falsehood in seeming to affirm fact.”¹⁸⁶

¹⁸⁴ Richard Meek, “Ekphrasis in *The Rape of Lucrece* and *The Winter's Tale*,” *SEL Studies in English Literature 1500-1900* 46.2 (2006): 392-393.

¹⁸⁵ A.C. Hamilton, “Sidney and Agrippa,” *The Review of English Studies* 7.26 (1956): 151.

¹⁸⁶ *Ibid.*, 154

In his *The History of Scepticism*, Richard Popkin assesses Agrippa's importance to the history of early modern skepticism: "The popularity of [*De incertitudine*]...in the 16th century, plus its influence on Montaigne, have given Agrippa an undeserved stature among those who played a role in the revival of skeptical thought in the Renaissance."¹⁸⁷ Popkin comments that, instead of furthering skeptical thinking, Agrippa's book "is actually a long diatribe against all sorts of intellectual activity, and all types of arts...Practically no argument occurs, only condemnations of the sins that human activities are heir to."¹⁸⁸ Agrippa, contends Popkin, does not present a "genuine philosophical argument for scepticism regarding human knowledge, nor does it contain a serious epistemological analysis" (24). Instead, "[w]hat Agrippa advocated...was that one should reject all knowledge, becoming a simple believer in God's Revelation."¹⁸⁹ These facts about Agrippa's work are important for two different but related reasons. The first is that Pyrrhonist skepticism does not reject knowledge or the search for knowledge. Its handling of epistemology is far more nuanced than Agrippa's, and so is Sidney's (as we will later see). Therefore, it seems likely that if he is using skepticism, then it is probably not the version that Hamilton sees in Agrippa.

In the opening paragraphs of the *Outlines of Pyrrhonism*, Sextus Empiricus, a Greek philosopher writing at the end of the second century AD, details the differences between the three philosophical schools, the "dogmatic, the Academic, and the skeptic":

The natural result of any investigation is that the investigators either discover the object of search or deny that it is discoverable and confess it to be inapprehensible or persist in their search. So, too, with regard to the objects investigated by philosophy, this is probably why some have claimed to have discovered the truth, others have asserted that it cannot be apprehended, while others again go on inquiring. Those who believe that they have discovered it are the "dogmatists,"

¹⁸⁷ Popkin, *Scepticism*, 23.

¹⁸⁸ *Ibid.*, 23.

¹⁸⁹ *Ibid.*, 24.

specially so called—Aristotle, for example, and Epicurus and the stoics and certain other; Cleitomachus and Carneades and other Academics treat it as inapprehensible: the skeptics keep on searching.¹⁹⁰

Agrippa falls squarely into none of these three categories. His own attitude toward knowledge is shaped not only by a belief that it is impossible, the Academic position, but that it is spiritually harmful:

Nothing cen chaunce unto men more pestilente, then knowledge: this is the very pestilence, that putteth all mankind to ruine, the which chaseth awaie all Innocencie, and hath made us subjecte to so many kindes of sinne, and to death also: whiche hath extinguished the light of Faith, castinge our Soules into blinde darknesse: which condemninge the truethe, hath place errorrs in the heist throne.¹⁹¹

Pyrrhonism, on the other hand, is characterized by a “suspens[ion]” of judgments in which a skeptic does not “deny or affirm anything.”¹⁹²

In his “Apology”, Montaigne summarizes the skeptical position with his motto, “What do I know?”¹⁹³ The Academic skeptic knows that he doesn’t know and that he cannot know; for the Pyrrhonist skeptic, however, this problem is even more difficult as Montaigne explains:

I can see why the Pyrrhonian philosophers cannot express their general conception in any manner of speaking; for they would need a new language. Ours is wholly formed of affirmative propositions, which to them are utterly repugnant; so that when they say “I doubt,” immediately you have them by the throat to make them admit that at least they know they are sure of this fact, that they doubt. Thus they have been constrained to take refuge in this comparison from medicine, without which their attitude would be inexplicable: when they declare “I do not know” or “I doubt,” they say that this proposition carries itself away with the rest, no more nor less than rhubarb, which expels evil humors and carries itself off with them.¹⁹⁴

¹⁹⁰ Sextus Empiricus, *The Outlines of Pyrrhonism* trans. R.G. Bury (Buffalo: Prometheus Books, 1990): 15-16.

¹⁹¹ Qtd. in Popkin, *Scepticism*, 24.

¹⁹² Empiricus, *Outlines*, 18.

¹⁹³ Michel de Montaigne, “Apology for Raymond Sebond” in *The Complete Essays of Montaigne*, trans. Donald M. Frame (Stanford: Stanford University Press, 2004): 393.

¹⁹⁴ *Ibid.*, 392-393.

For Montaigne, the epistemological problems of the Pyrrhonist skeptic remain problems to be answered. No claims to knowledge of any kind can be made, and, therefore, the Pyrrhonist skeptic has only to continue looking. Agrippa, on the other hand, gives up the search before it begins, and turns immediately to God. As I hope to show in the following pages, Sidney's epistemological considerations, where skeptical are far more moderate than Agrippa's. This passage is also helpful in another way in that Montaigne's rhubarb analogy provides a succinct description of a Pyrrhonian rhetorical strategy: a language that carries itself away. Later in this essay, we will see how Sidney's rhetorical strategies in the opening moment of the *Defence* are designed to "carry away" any rhetorical authority and to frustrate the propositional expectations of the reader.

Sidney adopts skeptical rhetorical strategies because at the heart of his defence of poetry is a claim—which, because of his rhetoric of suspension, we can only tentatively call a claim—about the skeptical nature of poetry: "Now, for the poet, he nothing affirms, and therefore never lieth. For as I take it, to lie is to affirm that to be true which is false. So as the other artists, and especially the historian, affirming many things, can, in the cloudy knowledge of mankind, hardly escape from many lies. But the poet (as I said before) never affirmeth."¹⁹⁵ But, as is made clear through the defence, many readers are unwilling to accept the claim that poetry doesn't lie because it doesn't affirm: "But hereto is replied, that the poet gives names to men they write of, which argueth a conceit of actual truth, and so, not being true, proves a falsehood."¹⁹⁶ I believe Sidney uses skeptical rhetorical strategies in order, like Derrida in his famous essay on *différance*, in order to show by letting-happen. Sidney advances arguments defending poetry while simultaneously using examples that suggest that arguments like his should not be believed.

¹⁹⁵ Sidney, *Defence*, 235.

¹⁹⁶ Ibid.

Thus, readers are left not knowing whether to accept or reject the arguments as logically or rhetorically meaningful. Sidney neither affirms nor denies the conclusions of his argument, thus forcing the reader to find different ways to think about the text's arguments. The writing ironizes the claims and forces the reader to suspend judgment about those claims, and forces the reader to find new ways of reading the text, poetic ways, which do not require the reader either believe or disbelieve in the text as an argument. The rhetorical strategies employed in this text require a reader, looking for propositions and affirmations but only continuously frustrated by the play of the text, to engage in a more precise manner with his thinking about these phenomena and the kinds of statements that one can possibly make about them. This kind of reflection about the possibility of thinking, as I will show later in this paper, is what we now recognize as phenomenological.

Before beginning a more detailed discussion of Sidney's use of Pyrrhonist skepticism, I would like to add two qualifications to my claim. The first is, like Hamilton, I have no direct evidence that Sidney read the *Outlines of Pyrrhonism* or any other work of Pyrrhonist skepticism, like Montaigne's *Apology*. Although a Latin edition of the *Outlines* was published in 1562 by Henri Estienne,¹⁹⁷ a man whom Sidney would befriend in Germany in 1573, it cannot be ascertained that Sidney ever read it.¹⁹⁸ Furthermore, Sidney's death in 1586 precludes the possibility that he could have read an English translation supposed to have "appeared in 1590 or 1591," and which, interestingly enough, is alluded to by Thomas Nashe in a preface to *Astrophil and Stella*.¹⁹⁹ It is once again possible that Sidney had access to earlier editions of Montaigne's

¹⁹⁷ Popkin, *Scepticism*, 19.

¹⁹⁸ James M. Osborn, *Young Philip Sidney 1572-1577* (New Haven: Yale University Press, 1972): Pgs. 88-89

¹⁹⁹ Popkin, *Scepticism*, 19; 253.

Apology (1580, 1582), but no positive evidence exists to support this claim.²⁰⁰ The work that follows, then, will make only tentative claims about what appears to be Pyrrhonist rhetorical strategies, and Sidney's use of Pyrrhonism. For these and a few other reasons, I would like to add the caveat that I am not claiming that Sidney was a "convinced" Pyrrhonist. Instead, it seems more likely that Sidney uses Pyrrhonist strategies for a few specific reasons. His commitment to skepticism seems to be more useful to his theory of poetry than for any grander critique of the possibilities of knowledge. Despite his criticisms of philosophy and history, Sidney does appear to believe in the possibility of knowledge and the potential good of philosophy, history, and the other arts and sciences. Furthermore, when he does critique these, the critique and its form appear to be more in the service of a defense of poetry than to be a full-throated disavowal of the uses of the other arts and sciences.

Sidney, taking his own suggestion that "the poet is indeed the right popular philosopher", mixes his philosophy with poetry.²⁰¹ One of the more notable examples is his use of prosopopeia, wherein philosophy and history criticize each other's faults. And, while, as Ferguson says, "the 'counterfeit in personification' is a clever device, since it allows each competitor to act not only as a weapon against the other but also as an unwitting self-destroyer", it is clear also from this section that Sidney does not simply dismiss philosophical and historical knowledge as Agrippa does, but that, with the addition of poetry, he sees their limitations as surmountable.²⁰²

²⁰⁰ John Florio dedicated second volume of his *Montaigne* to Lady Rutland, Sidney's daughter, and Lady Rich in 1603. See Frances A. Yates, *John Florio: The Life of an Italian in Shakespeare's England* (Cambridge: Cambridge University Press, 2010): 220.

²⁰¹ Popkin, *Scepticism*, 223.

²⁰² Ferguson, *Trials*, 142.

The philosopher is depicted as eschewing all liveliness: “the moral philosophers, whom, me thinketh, I see coming towards me with a sullen gravity, as though they could not abide by daylight, rudely clothed for to witness outwardly their contempt of outward things”—and this description might also function as a critique of Agrippa’s attitude toward the non-spiritual life.²⁰³ In accordance with this image, the moral philosophers are coldly logical in their teaching of virtue. Sidney writes,

These men casting largesse as they go, of definitions, divisions, and distinctions, with a scornful interrogative do soberly ask whether it be possible to find any path so ready to lead a man to virtue as that which teacheth what virtue is; and teach it not only by delivering forth his very being, his causes and effects, but also by making known his enemy, vice, which must be destroyed, and his cumbersome servant, passion, must be mastered; by showing the generalities that containeth it, and the specialties that are derived from it...²⁰⁴

Sidney describes moral philosophers ironically “casting largesse”. Their “charity” is no charity at all; they hand out only the currency of logical formulae, which, as Sidney later says, will only be useful for the already initiated, “the philosopher teacheth, but he teacheth obscurely, so as the learned can only understand him.”²⁰⁵ The moral philosophers also condemn passion, a position against which the *Defence* is an example. The “self-love” which drives its composition, and which excuses Sidney’s lack of “good reasons”—Sidney, in writing this piece, is not a “logician” in contrast to the philosophers—is an example of the kind of passion which the philosophers would want to master.

Sidney paints a picture of the historian as a “tyrant in table-talk”, and Sidney’s style at this moment—the first sentence runs ten lines in length—reflects this. His long sentences convey the rushed way in which the historian interrupts the philosopher, “[t]he historian scarcely

²⁰³ Sidney, *Defence*, 220.

²⁰⁴ Ibid.

²⁰⁵ Ibid., 223.

giveth leisure to the moralist to say so much.”²⁰⁶ Sidney also echoes a critique of rhetorical practice which he makes of Pugliano’s speech. Pugliano, the teacher at the Vienes Imperial Riding School, has praised horsemanship in such a way that Sidney wishes himself to be a horse.²⁰⁷ This praise, of course, is partial, resulting from Pugliano’s self-love. He praises the horses because he himself is a horseman. Sidney writes, “but that he, laden with old mouse-eaten records, authorizing himself (for the most part) upon the other histories, whose greatest authorities are built upon the notable foundation of hearsay; having much ado to accord differing writers and to pick truth out of their partiality.”²⁰⁸ The historical method is here depicted as a kind of reading, but one whose truth claims are impugned by the incompleteness and prejudice of the records. Out of the mess of partiality, the historian must cobble together the truth of the past, yet, if his authority to do this rests upon hearsay, then what grants the historian privileged access to the truth? How can we trust the historian’s judgments when he seems not to recognize his own partiality? This is, according to Victoria Kahn, precisely the problem which the revival of Pyrrhonist skepticism seeks to address:

once the moment of practical and rhetorical judgment has been admitted, it threatens to undermine the possibility of fixed ends or of an accessible truth. The legitimacy of the prudential judgment’s claim to be something more than mere subjective preference depends on an available standard of judgment, but this standard is ultimately an article of faith that by definition cannot justify itself before the court of skepticism.²⁰⁹

The judgments of historical writers do not have an intuitive connection to the truth of the past, but are subject to the “mere subjective preference” of the individual historian.

²⁰⁶ Ibid., 220.

²⁰⁷ Pugliano was a “teacher at the Imperial Riding School in Vienna founded in 1572.” See Sir Philip Sidney, *An Apology for Poerty (or The Defence of Poesy)*, ed. R.W. Maslen (Manchester: Manchester University Press, 2002): 120.

²⁰⁸ Ibid.

²⁰⁹ Kahn, *Rhetoric*, 46.

But while these two personified disciplines are allowed to destroy each other and destroy themselves, Sidney is obviously not looking to undermine them completely. According to Sidney, the philosopher wants to provide the moral precept by which one should lead a virtuous life, and the historian the example. “But”, he continues, “both, not having both, do both halt.”²¹⁰ Whereas Agrippa condemns all knowledge as “things of faithles Philosophers, and masters of errours,”²¹¹ Sidney advocates a far more moderate position. Instead of abandoning philosophy and history because of what they lack, he says, “[n]ow doth the peerless poet perform both: for whatsoever the philosopher saith should be done, he giveth a perfect picture of it in someone by whom he presupposeth it was done, so he coupleth the general notion with the particular example.”²¹² Notice that it is not that the poetry is able to perform the jobs of either the philosopher or the historian; the poet does not give moral precepts nor attempt to make accurate historical judgments. Moreover, the poet does not affirm for true the judgments made by either, and this is indicated by the verbs “should” and “presupposeth”. The philosopher says that something should be done, but that doesn’t make it true, and the historian only presupposes that it was done, but he cannot be sure. The real power of poetry lies in its ability to combine these into “a true lively knowledge.”²¹³ “The poet”, Sidney says, “is indeed the right popular philosopher” for he can “make many, more beastly than beasts, begin to hear the sound of virtue” from his “speaking picture of poesy.”²¹⁴ If the job of history and philosopher is to lead a person, a beast, to virtue, then, because of the form of their teaching, they fail. The poet, because he

²¹⁰ Sidney, *Defence*, 224.

²¹¹ Qtd. in Popkin, *Scepticism*, 24.

²¹² Sidney, *Defence*, 221

²¹³ *Ibid.*, 222.

²¹⁴ *Ibid.*, 222-223.

approaches the problem indirectly, is better able to lead people to virtue. In the contest between the three, the poet wins.

Although Sidney is not radically skeptical of the possibility of knowledge, we do still see skepticism operating at other levels in his text. Sidney's rhetoric undercuts the authority of his argument in two ways at the beginning of his *Defence*. In the second instance, Sidney identifies himself with his object of praise:

But thus much at least with his no few words he drave into me, that self-love is better than any gilding to make that seem gorgeous wherein ourselves be parties. Wherein, if Pugliano's strong affection and weak arguments will not satisfy you, I will give you a nearer example of myself, who (I know not by what mischance) in these my old years and idlest times having slipped into the title of a poet, am provoked to say something unto you in the defence of that my unelected vocation, which if I handle with more good will than good reasons, bear with me, since the scholar is to be pardoned that followeth the steps of his master.²¹⁵

Through Pugliano's example, Sidney has learned how to praise his art, but this means, like Pugliano's praise, that Sidney's defence is grounded more in affection than strong arguments. By criticizing Pugliano, Sidney impugns his own rhetoric, undermining the force of his defence. More importantly, in admitting that his praise of poetry is the result of self-love, the defence becomes a purely narcissistic act wherein the praised object is only a metonymic stand-in for the real object of praise, Sidney himself. By beginning with the example of Pugliano's self-love, and through his identification with Pugliano, Sidney calls into question his rhetorical authority. Furthermore, this admission of self-love traps the reader in an epistemological paradox. Montaigne, discussing the "weaknesses" and "defects" of language in his *Apology*, says,

[l]et us take the sentence that logic itself offers us as the clearest. If you say "It is fine weather," and if you are speaking the truth, then it is fine weather. Isn't that a sure way of speaking? Still it will deceive us. To show this let us continue the example. If you say "I lie," and if you are speaking the truth, then you lie. The

²¹⁵ Ibid., 212.

art, the reason, the force, of the conclusion of this one are the same as in the other; yet there we are stuck in the mud.²¹⁶

The parallel between these two instances is this: if Sidney is telling the truth that his defence is an act of self-love, then it is possible that everything he says is “gilded” in the service of narcissism, and potentially deceptive. If not, then he is lying. In either case, we are left wondering why we should believe him and how we can believe him. Margaret Ferguson, commenting on the same moment in Sidney’s text, and quoting Swift, draws similar conclusions: “Sidney’s ‘drie mock’ of himself prevents the reader from mastering intention.”²¹⁷

But before this, Sidney has already used his rhetoric to undercut his authority. Through hyperbole, Sidney forces the reader to realize the potential danger of any rhetoric. He suggests that the riding teacher Pugliano is such a skilled rhetor that he could convince his listeners at the riding school to wish to become a horse. Sidney writes, “[t]hen he [Pugliano] would add certain praises telling what a peerless beast the horse was, the only serviceable courtier without flattery, the beast of most beauty, faithfulness, courage, and such more, that if I had not been a piece of logician before I came to him, I think he would have persuaded me to have wished myself a horse.”²¹⁸ The risk of persuasive rhetoric is that if it is too good, it may well persuade one into accepting or wishing for absurd or even immoral things. Pyrrhonist skepticism attacks this as well in the later Renaissance. According to Aristotle, “man has an innate disposition to moral virtue” which grounds prudential judgment.²¹⁹ It is this conception of judgment that guides Renaissance thinking about practical action and the role of the orator and rhetoric until the late-middle sixteenth century when Henri Estienne and Gentian Hervet publish the works of Sextus

²¹⁶ Ibid., 392.

²¹⁷ Ibid., 153.

²¹⁸ Ibid., 212.

²¹⁹ Kahn, *Rhetoric*, 31-32.

Empiricus. Pyrrhonist skepticism questions the possibility of this innate judgment,²²⁰ and, therefore, undermines the authority of the prudent man as the “standard and measure” who makes the “‘actual and normative’ coincide in every particular act of judgment.”²²¹ The hyperbolic absurdity of Sidney’s wish to become a horse because of Pugliano’s persuasive rhetoric echoes this criticism of the orator, while at the same time once again undermining the authorial force of his own rhetorical performance. If Pugliano cannot be trusted, why should Sidney, whose performance mirrors Pugliano’s, be trusted?

The strongest and most obvious connection between the *Defence* and Pyrrhonist skepticism is the moment when Sidney defends poetry from the accusation that “it is the mother of lies.”²²² His response is particularly compelling because, instead of making a claim that links poetry to some transcendental knowledge, a move, Sidney notes earlier, that other cultures have made—“[a]mong the Romans a poet was called *vates*, which is as much a diviner, foreseer, or prophet, as by his conjoined words *vaticinium* and *vaticinari* is manifest: so heavenly a title did that excellent people bestow upon this heart-ravishing knowledge”—he remains in the sublunary world, and, instead asks what it means to lie.²²³ Sidney’s analysis of lying resembles a kind of speech-act analysis of different discourses. Astronomy, geometry, medicine all may lie—even if unintentionally—because, they take it upon themselves “to affirm.”²²⁴ The poet, on the other hand,

he nothing affirms, and therefore never lieth. For, as I take it, to lie is to affirm that to be true which is false. So as the other artists, and especially the historian, affirming many things, can, in the cloudy knowledge of mankind, hardly escape from many lies. But the poet (as I said before) never affirmeth. The poet never

²²⁰ Ibid., 47.

²²¹ Ibid., 32.

²²² Sidney, *Defence*, 234.

²²³ Ibid., 214.

²²⁴ Ibid., 235.

maketh any circles about your imagination, to conjure you to believe for true what he writes. He citeth not authorities of other histories, but even for his entry calleth the sweet Muses to inspire into him a good invention; in truth, not labouring to tell you what is or is not, but what should or should not be. And therefore, though he recount things not true, yet because he telleth them not for true, he lieth not...²²⁵

For Sidney, the poetic statement is, because it does not affirm, non-propositional. This means that it does not make any claims, does not propose and affirm any judgments. This formulation, then, asks the question, what does a poetic statement do if it is non-propositional, and, more importantly, what is the appropriate kind of response to non-propositional language?

The question of how to respond appropriately to non-propositional language is a difficult one, and one to which, I believe, Sidney provides only an incomplete answer. It's the nagging question of literary criticism, and precisely the question that Sidney addresses in his *Defence*. If, as I have suggested at the beginning, Sidney is responding to a disruption, it is a disruption that has, as its consequence, displaced customary responses to poetry. In the absence of certainty about the nature of poetry and the nature of an appropriate response, Sidney has been forced to return to the phenomenon of poetry, and to reinvestigate it from the ground up. I will say more about this problem later.

The question remains, what does this have to do with Pyrrhonism? Sidney maintains that the kind of frustration that attends the propositional language of other disciplines is not a problem for poetry. Because poetry does not affirm, does not "range in the cloudy *knowledge* of mankind," it is free from the limitations of other discourses. This freedom is what Sextus Empiricus claims for anyone "who participates" in the ability of Pyrrhonist skepticism. This ability consists in opposing appearances to judgments to arrive at "equipollence" which

²²⁵ Ibid.

“indicate[s] that no one...conflicting judgment takes precedence [over] any other as being more probable.”²²⁶ This is followed by “suspense” or non-assertion. Sextus says,

[n]onassertion is...avoidance of assertion in the general sense in which it is said to include both affirmation and negation, so that nonassertion is a mental condition of ours because we refuse either to *affirm or deny anything*. Hence it is plain that we adopt nonassertion also not as though things are in reality of such a kind as wholly to induce nonassertion, but as indicating that we now, at the time of uttering it, are in this condition regarding the problems now before us.²²⁷

The skeptic avoids dogmatism—either the affirmative kind, or the dogmatism of Academic skepticism—through non-assertion. His caveat, importantly, also avoids the appearance of assertion, and indicates a strict attention to appearances: we don’t do this because the phenomenon demands of us non-assertion, but because we are in this condition. In this way, problems of truth and correctness are completely avoided.

Now, it is possible that Sidney had a political purpose for making this observation about poetry. If poetry is non-assertive, if, as it were, the poet ranges freely “within the zodiac of his own wit,”²²⁸ then he might plausibly be able to defend himself from the accusation that he is writing about and criticizing or defaming real people—an accusation Gascoigne, for instance, was unable to avoid.²²⁹ But it seems that by suggesting that poetry is inherently non-assertive, Sidney is able to do more than just avoid scandal. As he demonstrated in his analysis of the limitations of philosophy and history, any affirmative discourse is easy to dismiss. If a discipline cannot meet its claims to truthfulness, if it finds itself hampered by the limitations of its own project, then one might easily make the radical conclusion, as Agrippa did, that its project is not valuable, or, worse, that it is harmful. Sidney’s use of skepticism, on the other hand, frees up the

²²⁶ Empiricus, *Outlines*, 18.

²²⁷ Ibid., 73, emphases mine.

²²⁸ Sidney, *Defence*, 216.

²²⁹ Steve Mentz, “Escaping Italy: From Novella to Romance in Gascoigne and Lyly” *Studies in Philology* 101.2 (2004): 153-171. Pg. 164.

reader of poetry, the auditor of any work of art, to have a different kind of experience with the work; namely, when a reader approaches the work, he is free to follow it where it leads him, and to continuously examine his experience. Because a reader in this framework has no certain ground upon which he can make affirmative statements about his experience, the nature of the work of art, or the nature of his thinking about the work of art, he is forced into a relationship where he must continuously reinterrogate the phenomenon of his experience of a work of art. A kind of phenomenology is what Sidney finally leaves to his audience, and we can see this in our own experience with his *Defence*.

Sidney's understanding of the poetic sign also forces us to continue to reinterrogate our relationship to the poetic text and the world. He provides for us a clear sense of the meaning of the poetic sign as opposed to the propositional sign of the other arts and natural sciences. Far from being connected to a larger Platonic ideal order, Sidney very much sees the poetic sign as something suggestive and worldly rather than indicative and eternal. Following Sextus Empiricus, a suggestive sign is one that relies on lived "experiences, since when a man sees smoke fire is signified, and when he beholds a scar, he says that there has been a wound."²³⁰ The suggestive sign because it is *experiential* is also relative, meaning that there is no necessary connection between signifier and signified. The relationship can change such that smoke doesn't suggest fire; to use a modern example, it may originate from dry ice or a smoke machine. This language of "suggestion" is in keeping with Pyrrhonist skepticism precisely because it does not claim to know whether there is fire where there's smoke. At best, fire is a possibility, even if it is the most reasonable possibility based on experience. The indicative sign, however, implies a much stronger, necessary connection between sign and signifier. In this case, smoke doesn't

²³⁰ Empiricus, *Outlines*, 129.

merely suggest fire; it means fire. The indicative sign assumes a strict causal relationship. Sextus writes, “An indicative sign is an antecedent judgment in a sound hypothetical syllogism, which serves to reveal the consequent.”²³¹ Because it is an antecedent judgment, the indicative sign is not grounded in experience. Coming before the experience, the antecedent judgment seeks to define strictly the meaning of any sign, announcing in advance what the sign indicates. It can do this only because it takes signs to have fixed meanings.²³²

Sidney perhaps echoes this skeptical thinking in his own discussion of the poetic sign. In arguing against the notion that poets are liars, he thinks about the meaning of reference. “But hereto is replied,” he writes,

that the poets give names to men they write of, which argueth a conceit of an actual truth, and so, not being true, proves a falsehood. And doth the lawyer lie then, when under the names of *John-a-stiles* and *John-a-nokes* he puts his case? But that is easily answered. Their naming of men is but to make their picture the more lively, and not to build any history: painting men, they cannot leave men nameless. We see we cannot play at chess but that we must give names to our chessmen; and yet, methinks, he were a very partial champion of the truth that would say we lied for giving a piece of wood the reverend title of a bishop. The poet nameth Cyrus or Aeneas not other way than to show what men of their fames, fortunes, and estates should do.²³³

Sidney suggests two related possibilities for the meaning of names, and both are non-indicative. First, a name becomes a rhetorical figure instead of just a sign. Enargia is the name for the class of tropes responsible for vivid and lifelike description. For Sidney, names are figural rather than indicative as they make poetic characters livelier. More importantly, these names also give the

²³¹ Ibid.

²³² James Allen argues that the Pyrrhonists allow for indicative signs “as long as [they are] understood...as part of the common, ordinary way following, or if you will, reasoning about, the phenomena.” That is, so long as indicative signs are not treated dogmatically, then they too can be followed. See my discussion of the fourfold starting below on page 118. James Allen, *Inference from Signs: Ancient Debates about the Nature of Evidence* (Oxford: Clarendon Press, 2001): 142.

²³³ Sidney, *Defence*, 235-236.

characters and the readers a moral direction, suggesting what they should be doing. Spiller argues that, “It would be a mistake to think that when Sidney argues that the poet ‘nothing affirms, and therefore never lieth’ he is ceding claims to reference, truth, or knowledge.”²³⁴ At one level, she is correct. Sidney is certainly not ceding any claims to reference. However, in claiming that his poetic signs are enargic figures, Sidney is drastically changing the meaning of that reference. These signs are not indicative but suggestive. They open up a possible relationship without making it a necessary one. So, naming a character Lady Rich, for instance, might call up associations with her—her attitude, her character, her beauty—but those are only suggestive and not affirmed. Those references help us fill out the poetic world, drawing on our experiences of people and things in the real world to help us make sense of the foreign poetic world. This is another permutation of all metaphoric language, that is, poetic language. These associations don’t have to be true to add something to our understanding of the poetic text. At the same time, while the reference requirement of language may not be completely ceded, it is altered enough that we also have to question what truth and knowledge mean in this context.

Finally, while Sidney might imagine that these signs will induce his readers to pursue ideal virtues, his notion of poetic meaning making is very much grounded in human experience. A character might resemble or may even be given the same name as a recognizable person precisely because the poet will expect his readers to have had some experience of that person, and they can therefore draw associations between the person and the character. Topical allusions work in this way as well, animating the imagination to connect two things to make a character or situation livelier. Instead of necessarily commenting on a real person or situation—though that always remains a possibility, making the indicated person or situation the sole bearer of the

²³⁴ Spiller, *Science*, 32.

meaning—the poetic allusion opens up meaning by using the familiar (the allusion) to light up the strange (the poetic text). So, when Spiller contends that Sidney’s art “works because its primary epistemological connection is with the ideal world rather than with a sensible world that is imperfect and contingent” she misses the almost dialectical reciprocity between the poetic and the real worlds in Sidney’s theory—a reciprocity that is absolutely necessary if poetry is to perform the moral work Sidney hopes it will. In only a few lines, Sidney conceives of a subtle and radical, if understated, understanding of the poetic sign. Poetry can suggest without indicating, and bring near without affirming; its language is that of possibility and not necessity. If Sidney’s poetic theory is to have any meaning, it must be found not in the ideal world of Platonic forms and supernatural forms, but in the relationship between the poetic and the real worlds. As Sidney says earlier in the work, poetry “is not wholly imaginative, as we are wont to say by them that build castles in the air; but so far substantially it worketh, not only to make a Cyrus, which had been but a particular excellency as nature might have done, but to bestow a Cyrus upon the world to make many Cyruses, if they will learn aright why and how the maker made him.”²³⁵ Poetry only makes sense if it is intimately connected to human action and existence, and it is thus an earthly concern. Its energies are directed not at esoteric knowledge but understanding and shaping human existence.

As I have shown above, Sidney begins his work with an ironic discussion of Pugliano’s speech which, because of Sidney’s “self-love”, calls into question the rhetorical authority of the *Defence*. Does Sidney have any real arguments, is he just kidding with his readers, or is this, as he says later, really just an “ink-wasting toy”?²³⁶ When at the end of the work he “conjures” us to believe the poets “when they tell you they will make you immortal by their verses” he once again

²³⁵ Sidney, *Defence*, 217.

²³⁶ *Ibid.*, 249.

engages in the hyperbolic play which called into question the believability of his rhetoric at the beginning of the work: “[t]hus doing, your name shall flourish in the printer’s shops; thus doing, you shall be most fair, most rich, most wise, most all, you shall dwell upon superlatives...this doing, your soul shall be placed with Dante’s Beatrice, or Virgil’s Anchises.”²³⁷ No we won’t be, and that’s the point. Sidney uses hyperbole to make us ask how we are supposed to understand this work. Where am I, who am I, when I read this, and what is it that I am reading? How do I respond? These questions, I would like to show, form a kind of phenomenology.

Phenomenology, as we all know, is a modern philosophical movement, so it would be unhistorical of us to try to see it in the Renaissance. But, as Edmund Husserl shows us in his *Cartesian Meditations*, phenomenology is a movement whose history stretches back to Descartes: “France’s greatest thinker, René Descartes, gave transcendental phenomenology new impulses through his *Meditations*; their study acted quite directly on the transformation of an already developing phenomenology into a new kind of transcendental philosophy. Accordingly, one might almost call transcendental phenomenology a neo-Cartesianism.”²³⁸ If we apply Heideggerian historiographical thinking to this, then we free ourselves up to seeing how phenomenology’s history might stretch back, beyond Descartes, to Sidney.

Before moving to the discussion of phenomenology, I’d like to point out a not-unrelated fact about Husserl’s project. He too understands his work within the context of a disruption: “[t]he splintering of present-day philosophy, with its perplexed activity, sets us thinking. When we attempt to view western philosophy as a unitary science, its decline, since the middle of the nineteenth century is unmistakable. The comparative unity that it had in previous ages, in its

²³⁷ Ibid.

²³⁸ Edmund Husserl, *Cartesian Meditations: An Introduction to Phenomenology*, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1969): 1.

aims, its problems and methods, has been lost.”²³⁹ He develops his phenomenology as an attempt to begin a “new *meditationes de prima philosophia*.”²⁴⁰ The similarities between Sidney’s method and Husserl’s don’t extend much beyond that, but comparing their methodologies is nonetheless fruitful. While Husserl also uses skepticism in making his argument, his purpose is to raise a bulwark against doubt. He wants to secure a transcendental foundation for science, whereas Sidney appears to embrace the “suspension” of the Pyrrhonists. Husserl uses skepticism as a tool, and not as an approach:

This universal depriving of acceptance, this “inhibiting” or “putting out of play” of all positions taken toward the already-given Objective world and, in the first place, all existential positions...or, as it is also called, this phenomenological epoché and “parenthesizing” of the Objective world—therefore does not leave us confronting nothing. On the contrary we gain possession of something by it; and what we...acquire by it is pure living, with all the pure subjective processes making this up, and everything meant in them *purely as* meant in them: the universe of “phenomena” in the (particular and also the wider) phenomenological sense. The epoché can also be said to be the radical and universal method by which I apprehend myself purely...²⁴¹

By doubting everything, as Descartes did, until everything unsure falls away, the doubter is left with the transcendental foundation of thinking, the *res cogitans*, the transcendental subject.

From this position, the philosopher can begin anew the process of rebuilding the logical foundations of the world, which, Husserl hopes, will lead to a livelier science.

Because Husserl’s phenomenology ends in certainty, even though it uses some strategies of skepticism, it is not legitimately Pyrrhonist. However, his methodology does bring us somewhat closer to what appears to be happening in Sidney’s *Defence*. In the *Logical Investigations*, Husserl provides the following description of the ends of phenomenology: “The phenomenology of the logical experiences aims at giving us a sufficiently wide

²³⁹ Ibid., 4.

²⁴⁰ Ibid., 5.

²⁴¹ Ibid., 20-21.

descriptive...understanding of these mental states and their indwelling sense, as will enable us to give fixed meanings to all the fundamental concepts of logic.”²⁴² Fixity is once again his aim, but we can begin to see that phenomenology is an attempt to derive surety for our judgments by retuning to how we perceive a phenomenon. What this entails is a radical questioning of our assumptions about perception and judgment, thereby requiring a freshly intimate interrogation of the nature of phenomena. Husserl’s phenomenology links up with Sidney’s *Defence*, then, in this way: Because Sidney’s text conceives of poetry through its non-propositional frame, and because a disruption has left us with no foundation from which to make judgments, we are, therefore, forced to continuously return to the phenomenon of the experience of a work of art.

Yet, Sidney doesn’t seem to use his phenomenology to provide certainty for the readers of poems. Instead, Sidney’s thinking, like his *Defence*, because of its use of Pyrrhonism, continues to abnegate surety. It appears to want to remain unable to make assertions about poetry and the experience of the work of art. Heidegger’s revision of Husserl’s thinking in *Being and Time* provides a much closer analogue to Sidney’s phenomenology because it resists making claims. In redefining phenomenology, Heidegger starts with the motto “[t]o the things themselves.”²⁴³ What this means, he clarifies, is that phenomenology lets “what shows itself be seen from itself, just as it shows itself from itself.”²⁴⁴ This slightly tortured statement is the result of a thinking that integrates the non-assertion of Pyrrhonist skepticism. A much longer explication serves to clarify this meaning:

“Phenomenology” neither designates the object of its researches nor is it a title that describes their content. The word only tells us something about the *how* of the demonstration and treatment of *what* this discipline considers. Science “of”

²⁴² Edmund Husserl, *Logical Investigations*, trans. J.N. Findlay (New York: Routledge and Kegan Paul, 1970): 252.

²⁴³ Heidegger, *Being*, 24.

²⁴⁴ *Ibid.*, 30.

the phenomena means that it grasps its objects in *such* a way that everything about them to be discussed must be directly indicated and directly demonstrated. The basically tautological expression “descriptive phenomenology” has the same sense. Here description does not mean a procedure like that of, say, botanical morphology. The term rather has the sense of a prohibition, insisting that we avoid all nondemonstrative determinations.²⁴⁵

As the final sentence here makes explicit, Heidegger’s phenomenology is skeptical. This method does not make claims; it merely describes. Because differing descriptions are possible, we will have to avoid drawing any conclusions. But this does free us up to investigate phenomena without being hindered at the outset by any metaphysics, which might, for instance, interpret the world as always already being the result of a dualism of appearance versus reality.

Phenomenology frees investigation to itself.

If an experience of poetry is indeed phenomenological at some level, that is, if it begs to be examined and reexamined, how does it keep calling us to it? The easy answer is that human curiosity, frustrated by its inability to draw conclusions about poetry, will simply continue to reengage it. Of course, the risk is that this will just undermine the experience altogether. We lose faith in history and philosophy because our propositional expectations are also frustrated, but in a different way. With history and philosophy, the excess of claims frustrates the reader; with poetry, it is the lack. Of course, our experience with a work of art differs significantly in another way. According to the classical traditions that Sidney echoes here, the job of poetry is to both teach *and* delight.²⁴⁶

The poet is the “right popular philosopher” precisely because he can delight. This makes possible a kind of teaching available to none other: “For [poets] indeed merely make to imitate, and imitate both to delight and teach; and delight, to move men to take that goodness in hand,

²⁴⁵ Ibid., 31.

²⁴⁶ Sidney, *Defence*, 217.

which without delight they would fly as from a stranger.”²⁴⁷ Delight modifies our experience with a text; it allows that text to make a claim on our being which no other kind of text can. In fact, it seems that Sidney is arguing that poetry would not be able to teach without this claim on us, “a sufficient probability that, if ever learning come among them, it must be by having their hard dull wits softened and sharpened with the sweet delights of poetry—for until they find a pleasure in the exercises of the mind, great promises of much knowledge will little persuade them that know not the fruits of knowledge.”²⁴⁸ In this way, delight aids us in thinking through the text, and gives us the ability to continue working through it without being put off by its non-propositional demands. Roland Barthes seems to have this in mind at the beginning of his *The Pleasure of the Text*:

Imagine someone...who abolishes within himself all barriers, all classes, all exclusions, not by syncretism but by simple discard of that old specter: *logical contradiction*; who mixes every language, even those said to be incompatible; who silently accepts every charge of illogicity, of incongruity; who remains passive in the face of Socratic irony...Such a man would be the mockery of our society...Now this anti-hero exists: he is the reader of the text at the moment he takes his pleasure.²⁴⁹

The reader’s relation to a text changes at the moment he takes pleasure in it. He is then able to follow the text where it leads him. While he doesn’t understand it as such, this modification of one’s being-toward phenomena is what, in the epoché, grounds the transcendental subjectivity of Husserl’s phenomenology. By letting go of presumptions, doubting everything (even if Husserl, following Descartes doesn’t subject the subject to a more radical critique) is the first stage in understanding anew the phenomena in any investigation.

²⁴⁷ Ibid., 218.

²⁴⁸ Ibid., 214.

²⁴⁹ Roland Barthes, *The Pleasure of the Text* trans. Richard Miller (New York: Hill and Wang, 1975): 3.

Sidney's skeptical-phenomenological poetics allows him to rethink from the ground up not only the nature of poetry, but also the nature of our response to a work of art. His *Defence* shows us the way in which poetic thinking and thinking about poetry open up a space of interminable investigation, wherein the apprehension of phenomena is capable of being constantly refigured as a result of poetry's suspension of judgment. Sidney's turn toward skepticism and phenomenology appears to be necessary in the face of disruption. In fact, so necessary, that a retracing of the history of early modern skepticism along with the history of early modern science might reveal a similar turn. In the modern period, it might be that a part of the project of new modes of investigation and understanding might always require a moment of doubt and a moment of reconfiguration wherein one can ask, what are the phenomena, and what are the appropriate responses. Sidney's *Defence of Poesy* might reveal itself to be only another instance of a regularity in thinking, or it might reveal a special role for the poetic imagination in this process. In either case, this phenomenon warrants further investigation.

Whereas Gilbert finally rejects the poetic in favor of a theory of truth as correspondence, Sidney uses the resources of Pyrrhonist skepticism to develop a poetics that disrupts claims to truth-telling and affirmation. As I will suggest in the next section, the implications of this are far-reaching. Sidney reverses the priorities of Aristotle's *Nicomachean Ethics* to suggest that poetics could be a more fruitful ground for learning how to act ethically precisely because it does not rely on assertions about the fundamental truths of moral or ethical responsibility. Poetics is more dynamic and fluid, and thus more responsive to the ethical concerns of a given situation.

III. Sidney's Poetic Ethics and the Limits of Knowledge

Although Sidney's use of Pyrrhonist non-assertion is innovative in the tradition of poetics, we might wonder why a Christian nobleman, courtier, soldier, and budding politician might adopt

these resources in defending poetry. After all, while his role as poet might not necessarily require him to make truth claims, his other roles seemingly demand not just the truth, but a strident and passionate defense of that truth. A Christian soldier would be convinced of the truth for which he is dying. One possible explanation is that Sidney is a fideist, a term Popkin uses for the kind of Christian Pyrrhonists who avoided the problem of assertion by instead relying on faith. The Fideists did not have to claim to know for certain any of the truths they espoused; they merely had to trust in the revealed word of God. Because faith requires neither argument nor proof, it avoids the same epistemological traps that the Pyrrhonists warned of. Faith is one possible version, as we shall see in a moment, of the Pyrrhonist ethical principle of living according to the normal rules of life. Yet this explanation, while plausible, is too easy, and does not attend to the subtler difficulties of Sidney's *Defence*. For instance, Sidney does not seem to adhere to an ethics of unperturbedness, which is the end of Pyrrhonist inquiry. Furthermore, Sidney's *Defence* understands poetry as cultivating an *active* ethical virtue, and not a passive one, relying merely on custom, nature, instruction, and the constraint of the passions. In this way, Sidney's *Defence* is not wholly Pyrrhonist. Rather, Sidney adopts Pyrrhonism to solve a particular problem, a problem, I argue, he locates in the epistemological concerns of Aristotle's *Ethics*. Sidney, I contend, sees an ethics grounded in political science as both limited and limiting. The realities of human existence and of human ethical concerns are far more contingent, relational, perspectival and historical than any epistemology, which is grounded in thinking about what is regular, calculable, and constant in human action, can admit. Sidney employs the resources of Pyrrhonist skepticism to both critique the limits of Aristotle's ethical epistemology, and suggest a new foundation for ethics. Instead of merely clarifying the essence of political science, Sidney engages in a full-scale revision of Aristotle's ethics, arguing that the relational, temporal, and

familiar concerns of poetry are more dynamic, and therefore better suited as a ground for ethical inquiry, teaching, and action. Poetry, precisely because it does not claim to tell us the truth, ends up being far more just and far more truthful than any political science. Poetic understanding, not political knowledge, is the true basis for ethical action.

Despite Sidney's apparent grounding of his poetics in Pyrrhonist non-assertion, for an ethically minded young poet and courtier, Pyrrhonism cannot have remained wholly satisfactory. The trouble for someone like Sidney lies not in non-assertion, but in the Pyrrhonist's ethical principle. Sextus Empiricus writes,

Adhering, then, to appearances we live in accordance with the normal rules of life, undogmatically, seeing that we cannot remain wholly inactive. And it would seem that this regulation of life is fourfold, and that one part of it lies in the guidance of Nature, another in the constraint of the passions, another in the tradition of laws and customs, another in the instruction of the arts. Nature's guidance is that by which we are naturally capable of sensation and thought; constraint of the passions is that whereby hunger drives us to food and thirst to drink; tradition of customs and laws, that whereby we regard piety in the conduct of life as good, but impiety as evil; instruction of the arts, that whereby we are not inactive in such arts as we adopt.²⁵⁰

The Pyrrhonist fourfold regulation of life appears to offer little possibility for critiquing tradition, habit, custom, law, passion, instinct, etc. This standard binds the Pyrrhonist to what is, allowing, it seems, little room for suggesting new and alternative ways of approaching ethical problems.

We know Sidney is not limited in this way. In fact, the entirety of his *Defence* is pitched at revising a tradition of ethical and political instruction, grounded in stale precepts and half-truths. But Sidney is also not opposed to tradition. One of the main thrusts of his argument is simply that poetry, because it is delightful, is a better teacher than the other arts. He writes, "so no doubt the philosopher with his learned definitions—be it of virtue, vices, matters of public policy or private government—replenisheth the memory with many infallible grounds of wisdom, which,

²⁵⁰ Empiricus, *Outlines*, 23.

notwithstanding, lie dark before the imaginative and judging power, if they be not illuminated or figured forth by the speaking picture of poesy.”²⁵¹ In this way, poetry is a better medium for communicating the important lessons of philosophy, and memory and tradition do not stand in the way of poetic teaching; rather, they are the stuff of that teaching.

However, Sidney does not relegate poetry merely to the teaching of received wisdom and understanding. He sees, instead, poetry as a means of opening up new possibilities for understanding and action. “Right poets,” Sidney argues, “be they which properly do imitate to teach and delight, and to imitate borrow nothing of what is, hath been, or shall be; but range, only reined with learned discretion, into the divine consideration of what may and should be.”²⁵² Poets move us beyond tradition and received understanding to a conception of the world as it could and perhaps *should* be. It is this final comment that suggests a conflict between Sidney and Pyrrhonism. The Pyrrhonist derives his “should” from tradition, custom, and law, precisely because he appears not to know what is better. He relies on these givens to decide for him when there is no conflict, and when there appears no reason to prefer a new course of action to an accepted one. But the Pyrrhonists’ reliance on tradition, custom, and law is not necessarily a hindrance to Sidney’s skeptical understanding of poetry. Rather, it seems that it is precisely when tradition, custom, and law cannot provide an adequate directive for action that poetry steps in.

Yet, Sidney has an answer for this difficulty. Instead of articulating a moral prescriptivism drawn from the examples of great historical or poetic persons, Sidney argues that poetry provides moral exempla that should be followed as guidelines and not as fixed moral rules. Because the poet does not know what will be and what is necessary, at best he can use his examples to teach how one *might* act within a given moral community. Eschewing moral

²⁵¹ Sidney, *Defence*, 222.

²⁵² *Ibid.*, 218.

prescriptivism, Sidney relies on the interaction between the poem and the contemporary community for developing an ethical orientation.

Sidney indicates somewhat obliquely that his concern is with the problem of deliberation, a problem that only occurs when there is a conflict between possible and often equally acceptable kinds of action. Shortly after he comments that, “For, as Aristotle saith, it is not *gnosis* but *praxis* must be the fruit. And how *praxis* can be, without being moved to practise, it is no hard matter to consider,” he writes, “Now therein of all sciences (I speak still of human, and according to the human conceit) is our poet the monarch. For he doth not only show the way, but giveth so sweet a prospect into the way, as will entice any man to enter it.”²⁵³ While Katherine Duncan-Jones glosses the “human” of “human sciences” to mean simply, “secular, not sacred; ‘humane learning,’” we can read his earlier invocation of Aristotle as a sign that there is a larger context for this conversation.²⁵⁴ Indeed, in the *Nicomachean Ethics*, Aristotle similarly glosses practical wisdom as human. He writes, “Practical wisdom on the other hand is concerned with things human and things about which it is possible to deliberate; for we say it is above all the work of the man of practical wisdom, to deliberate well, but no one deliberates about things invariable, nor about things which have not an end, and that a good can be brought about by action.”²⁵⁵ In this moment, Aristotle is at pains to define the difference between scientific knowledge and practical wisdom. For him, scientific knowledge, and therefore philosophic knowledge, is that “by which we contemplate the kind of things whose originative causes are invariable.”²⁵⁶ Scientific and philosophic knowledge concern themselves with things about which no decisions are necessary, whereas practical wisdom is the capability and the practice of

²⁵³ Ibid., 226.

²⁵⁴ Ibid., 600.

²⁵⁵ Aristotle, “Ethics”, 1028.

²⁵⁶ Ibid., 1023.

deliberation, making a decision about things that are neither necessary, like the motions of the stars which one can only record, nor accepted by custom, law, and tradition. When Sidney says that he is speaking of human knowledge and comments that the poet “shows the way,” he is strongly linking his poetic theory with the problem of practical wisdom in Aristotle. Poetry, Sidney seems to be saying, is about deliberation, about the problem of deciding what to do when there are multiple viable options.

While Pyrrhonism does concern itself with problems of action, it does so only insofar as those problems arise from certain epistemological assumptions and conclusions. It is not primarily a philosophy of action but of judgment and knowledge. We see this at the very outset of the *Outlines* when Sextus classifies the three main kinds of philosophy, the Dogmatists, the Academics, and the Sceptics. Respectively, these three groups claim, “to have discovered the truth...asserted that it cannot be apprehend, while [Sceptics] go on inquiring.”²⁵⁷ Sextus groups Aristotle among the dogmatists because Aristotle claims to have discovered the truth. Aristotle’s confidence in his assertions comes from his belief that he knows what is true. For instance, he can argue that practical wisdom “is not *supreme* over philosophic wisdom [i.e. scientific knowledge]...any more than the art of medicine is over health; for it does not use it but provides for its coming into being...to maintain [practical wisdom’s] supremacy would be like saying that the art of politics rules the gods because it issues orders about all of the affairs of state.”²⁵⁸ Aristotle implies that practical wisdom is merely the means by which the rules and laws of the gods make themselves manifest in the human world; therefore, as mere means of the truth coming into being, practical wisdom cannot be higher than the truth itself or the recognition of those truths through scientific knowledge or philosophic wisdom. The skeptic, of course, would

²⁵⁷ Empiricus, *Outlines*, 15.

²⁵⁸ Aristotle, “Ethics”, 1036.

respond to this, “How do you know?” Because Aristotle takes as the starting point for all his investigations some assertions about the true nature of the world, his conclusions will always be vulnerable to skeptical objections. And this is precisely why Sidney grounds his poetics, a poetics that is finally about moving a person to action and is therefore political, in Pyrrhonist skepticism. Sidney avoids the skeptical objections by reconceiving practical wisdom as a poetic rather than an epistemological enterprise.

Henry Turner’s suggestion that “Sidney positions poesy as an extension of ethical philosophy and even of what we would today call political science” is correct for its understanding of the *Defence*’s debt to Aristotle’s *Nicomachean Ethics*. Clearly Sidney believes that poetry surpasses the Horatian dictum that it should teach and delight, to become the “monarch” of all the sciences.²⁵⁹ Yet, in another sense, by seeing poetry as a mere extension of ethical philosophy, Turner misses the point. In Sidney’s estimation, poetry is the ground of ethical philosophy; it is more foundational to ethics than political science. To argue this position, Sidney again revises some of Aristotle’s priorities from the *Ethics*. Maligning the other sciences in his continued image of their great contest, Sidney writes,

But when by the balance of experience it was found that the astronomer, looking to the stars, might fall in a ditch, that the inquiring philosopher might be blind in himself, and the mathematician might draw forth a straight line with a crooked heart, then lo, did proof, the overruler of opinions, make manifest that all these are but serving sciences, which, as they have each a private end in themselves, so yet are they all directed to the highest end of the mistress-knowledge, by the Greeks called *architektonikê*, which stands (as I think) in the knowledge of a man’s self, in the ethic and politic consideration, with the end of well-doing and not of well-knowing only—even as the saddler’s next end is to make a good saddle, but his further end to serve a nobler faculty, which is horsemanship, so the horseman’s to soldiery, and the soldier not only to have the skill, but to perform the practice of a soldier.²⁶⁰

²⁵⁹ Sidney, *Defence*, 226.

²⁶⁰ *Ibid.*, 219.

Even though these are all serving sciences, that is, sciences directed at some end other than *architektonikê*, Sidney understands that finally they still all serve the higher ethical purpose. Here Sidney follows not only Aristotle's reasoning in deciding how and which arts take priority, but he also borrows his examples from Aristotle. Aristotle writes, "But where such arts fall under a single capacity—as bridle-making and the other arts concerned with the equipment of horses fall under the art of riding, and this and every military action under strategy, in the same way other arts fall under yet others—in all of these the master arts are to be preferred to all the subordinate ends; for it is the sake of the former that the latter are pursued."²⁶¹ But whereas Aristotle identifies politics as the master art, "since politics uses the rest of the sciences, and since again it legislates as to what we are to do and what we are to abstain from," Sidney gives poetry the pride of place.²⁶²

The essential difference between poetry and political science, according to Sidney, is moving. Moving has no place in Aristotle's understanding of political science. For Aristotle, political science is the highest art because "it legislates as to what we are to do and what we are to abstain from, the end of this science must include those of the others, so that this end must be the good for man."²⁶³ But unlike Aristotle, Sidney understands that man requires more than rules and precepts to be good. "For the philosopher," he writes, perhaps thinking of Aristotle's difficult, highly formal style,

setting down with thorny arguments the bare rule, is so hard of utterance and so misty to be conceived, that one that hath no other guide but him shall wade in him till he be old before he shall find sufficient cause to be honest. For his knowledge standeth so upon the abstract and general, that happy is that man who may understand him, and more happy that can apply what he doth understand.²⁶⁴

²⁶¹ Aristotle, "Ethics", 935.

²⁶² Sidney, *Defence*, 936.

²⁶³ Ibid.

²⁶⁴ Ibid., 221.

Providing the “bare rules” of action, varying as they do according to the situation, Aristotle’s political science errs toward confusion. No one can learn how to act from these precepts without years of deep study, making politics useless, as far as Sidney is concerned, for moral and ethical teaching. Poetry is superior because it illuminates those “many infallible grounds of wisdom...which...lie dark before the imaginative and judging power” with its speaking pictures.²⁶⁵ This illumination is two-fold. By giving a “perfect picture” of the philosophical and moral precept, the poet can give his readers a concrete example of how to act. This example interprets the precept for its audience, sparing them the labor of having to master Aristotle or any of the other moral and ethical texts of the day. It gives the audience a particular understanding of an ethical action which they might judge fit to be followed. But poetry has one other added benefit: pleasure.

Sidney in fact understands that man is not the rational animal, that man will not do good things simply because they are good things. Early in the essay, Sidney remarks,

Neither let it be deemed too saucy a comparison to balance the highest point of man’s wit with the efficacy of nature; but rather give right honour to the heavenly Maker of that maker, who having made man to His own likeness, set him beyond and over all the works of that second nature: which in nothing he showeth so much as in poetry, when with the force of a divine breath he bringeth things forth surpassing her doings—with no small arguments to the incredulous of that first accursed fall of Adam, since our erected wit maketh us know what perfection is, and yet our infected will keepeth us from reaching unto it. But these arguments will be few be understood, and by fewer granted.²⁶⁶

The Christian doctrine of the fallenness of man is, unsurprisingly, what guides Sidney’s ethical thinking. Although made in the image of God, and endowed with faculties approaching those of the “heavenly Maker,” man still falls. Our “erected wit” is frequently no impediment to our

²⁶⁵ Ibid., 222.

²⁶⁶ Ibid., 217.

“infected will,” as we can see in the example of Adam’s fall. Reason alone cannot guarantee that man will pursue the good, so he must be induced by other means. Poetry is a second nature that sets man above all other earthly creations because it allows him, too, to be a maker. The analogy between God as Maker and man as maker, then, reveals something nearly divine in man’s poetic capacities. Poetic creations surpass man’s fallen nature by giving us, as Sidney claims earlier, a “golden” world, but beyond merely providing a world, a way of thinking, acting, and being to which to aspire, poetry gives us the means to induce each other to pursue the golden world, to make it a reality.²⁶⁷ The delight of poetry steps in where the infected will defeats reason. Sidney continues,

For suppose it be granted (that which I suppose with great reason may be denied) that the philosopher, in respect of his methodical proceeding, doth teach more perfectly than the poet, yet do I think that no man is so much *philophilosophos* as to compare the philosopher in moving with the poet. And that moving is of a higher degree than teaching, it may by this appear, that it is well nigh both the cause and effect of teaching. For who will be taught, if he be not moved with the desire to be taught? And what so much good doth that teaching bring forth (I speak still of moral doctrine) as that it moveth one to do that which it doth teach? For as Aristotle saith, it is not *gnosis* but *praxis* must be the fruit. And how *praxis* can be, without being moved to practise, it is no hard matter to consider.²⁶⁸

Even if the philosopher were the better teacher, teaching does not guarantee moving; it does not ensure that man will follow what was taught or be inspired to keep teaching what he has learned. The poet is the ‘right popular philosopher’ because the work he does is two-fold: it inspires readers to want to be taught, and then to act on that teaching. Philosophy, in Sidney’s view, is not speculation about the causes of things. Sidney rather eschews metaphysical speculation and scientific method in favor of a conception of poetry and philosophy as a dynamism able to induce to action rather than to know. So, when Turner argues that according to Sidney, “Poesy

²⁶⁷ Ibid., 216.

²⁶⁸ Ibid., 226.

has an analytic value rather than a merely prescriptive, moral one: it assists in the understanding of human action—its motivations, means, ends, and general modes or patterns,” he is mistaken.²⁶⁹ Poesy has neither a prescriptive nor an analytic value. It induces to action without giving rules for what that action must be, nor does it have an analytic concern for the “means, ends, and general modes or patterns,” choosing rather to create an imitable “perfect pattern” for future possibilities, and leaping over the analysis into action.²⁷⁰

Sidney argues throughout the *Defence* that poesy is not prescriptive by contending that it concerns itself with what may or could be. This appeal to the temporality of poetry, its possibility rather than its temporal necessity, is key to understanding why poetry cannot prescribe but only suggest possible actions. In the first part of his essay, as Sidney surveys the names used for poets in other languages and cultures, he mentions frequently poetry’s special relationship to prophecy. He writes,

Among the Roman a poet was called *vates*, which is as much as a diviner, foreseer, or prophet, as by his conjoined words *vaticinium* and *vaticinari* is manifest: so heavenly a title did that excellent people bestow upon this heart-ravishing knowledge. And so far were they carried into the admiration thereof, that they thought in the chanceable hitting upon any such verses great foretokens of their following fortunes were placed. Whereupon grew the word *Sortes Virgilianae*, when by sudden opening Virgil’s book they lighted upon any verse of his making, whereof the histories of the emperors’ lives are full...²⁷¹

The Romans, according to Sidney, believed they could open the pages of Virgil to a random line that would tell them their fortunes. They called this the “Virgilian Lottery.” The link between prophecy and poetry is further strengthened when Sidney notes that “the oracles of Delphos and Sibylla’s prophecies were wholly delivered in verses,” and that David’s Psalms are a “divine

²⁶⁹ Turner, *Stage*, 84.

²⁷⁰ Sidney, *Defence*, 224.

²⁷¹ *Ibid.*, 214.

poem”.²⁷² Yet despite these noble pagan and Christian traditions of poets as prophets, Sidney does not argue for poetry’s divinity in this way. If poets were prophets, then they would in fact not be makers. Prophesying the future entails a necessity; a prophecy says that some future event will of necessity, inexorably occur. But right poets, according to Sidney, stand outside of the orders of temporal necessity. Right poets, he says, “be they which most properly do imitate to teach and delight, and to imitate borrow nothing of what is, hath been, or shall be; but range only reined with learned discretion, into the divine consideration of what may be and should be”.²⁷³ What is, hath been, and shall be belong respectively to the considerations of the philosophers, historians, and prophets. These are necessary insofar as these events cannot be changed. A poet who prophesies does not range “into the divine consideration of what may be”; rather, he is then only a speaker of divine will, which cannot be contravened or made new by human action.

Turner and others derive their sense that Sidney has a prescriptive ethics from his comments that poetry ranges “into the divine consideration of what may be and *should* be”.²⁷⁴ Perhaps failing to recognize that the divine consideration is, as the poetic second nature, merely *analogous* to God’s own creative capacities do such critics take this to mean that the poet somehow communicates Christian ethical prescriptions. Of course, Sidney does little to dissuade such an interpretation. Later he writes, “for whatsoever the philosopher saith should be done, [the poet] giveth a perfect picture of it in someone by whom he presupposeth it was done, so as he coupleth the general notion with the particular example”.²⁷⁵ This comment subordinates the poet to the philosopher, whose thorny logic the poet merely sweetens so that it may be digested more easily. Daniel Jacobson sees in this and similar moments a serious problem. He writes,

²⁷² Ibid., 215.

²⁷³ Ibid., 218.

²⁷⁴ Ibid., 218, italics mine.

²⁷⁵ Ibid., 221.

“There seems an obvious conflict between Sidney’s humanism, expressed in the claim that the poet tells us what should be, and the idea that the poetry makes no assertions. Even if the poet makes no empirical claims (about what is), by telling what should be, he or she does affirm something. The poet is therefore capable of mistake or error, even deception.”²⁷⁶ Jacobson rightly points out that our ethical judgments can be wrong, misleading, or even deceptive. Thus, even if a poet does not make epistemological claims, he can still be wrong about the practical claims.

But the tensions between Sidney’s apparent prescriptivism and the rest of his poetic theory do not stem only from the poet’s non-assertion. The claim that poets only deliver the judgments of the philosophers contradicts the rest of the essay, which seeks to raise the poet and poetry above philosophy and the other sciences. Moreover, Sidney has warned us throughout the essay to be wary of those who say they know what we should and should not do. When Sidney remarks in his anecdote about Pugliano that “with his no few words he drave into me, that self-love is better than any gilding to make that seem gorgeous wherein we be parties,” he is suggesting, of course, that we should be skeptical of anyone’s pronouncements. In this way, the poet’s shoulds cannot be understood as prescriptive. If they were truly prescriptions, then Sidney would not ask us to be skeptical of them at the same time as he suggests we should follow them. Elsewhere, Sidney, in clarifying Plato’s critiques of poets and poetry, argues that Plato was not opposed to poetry so much as to turning poetic statement into propositions. Plato, according to Sidney, spurns those teachers who would reduce poetry to a kind of ethical and epistemological method. Sidney writes,

²⁷⁶ Daniel Jacobson, “Sir Philip Sidney’s Dilemma: On the Ethical Function of Narrative Art,” *The Journal of Aesthetics and Art Criticism* 54.4 (1996): 330.

For indeed, after the philosophers had picked out of the sweet mysteries of poetry the right discerning true points of knowledge, they forthwith putting it in method, and making a school-art of that which the poets did only teach by a divine delightfulness, beginning to spurn at their guides, like ungrateful prentices, were not content to set up shops for themselves, but sought by all means to discredit their masters; which by the force of delight being barred them, the less they could overthrow them, the more they hated them.²⁷⁷

Given Sidney's doubts that philosophers, or anyone else for that matter, have laid claim to the truth, we can read "the right discerning true points of knowledge" ironically. Here again we see Sidney pointing out the limitations of philosophical statement, suggesting that philosophy's affirmations are in fact stripped of something essential, their delightfulness, and leveled off into an ethical or epistemological method. This method forms the core of the ethical imperatives of philosophy and is, in Sidney's view, bitterly opposed to poetry.

Finally, Sidney wants to draw a line between inducing opinions by way of philosophical prescription, and imitating them through poetic representation. Again, commenting on Plato, Sidney writes, "Plato found that the poets of his time filled the world with wrong opinions of the gods, making light tales of that unspotted essence, and therefore would have the youth depraved with such opinions. Herein may much be said. Let this suffice: the poets did not induce such opinions, but did imitate those opinions already induced."²⁷⁸ Plato had misunderstood the poetry he had read, ascribing to the poetry itself certain opinions and affirmations, which they in fact, according to Sidney, meant only to imitate and represent. Thus, this seems to accord with Sidney's observation that poetic language is non-propositional. As imitation, it can represent ideas, opinions, and prescriptions without inducing us to believe any of them. In this way, then, the poet's shoulds cannot be understood as prescriptive, not as commands or indications of what

²⁷⁷ Sidney, *Defence*, 238.

²⁷⁸ *Ibid.*, 239.

is to be done. Rather, we might think of them as subjunctive statements of what might be done, should we do one thing as opposed to another.

Fundamentally, though, Sidney's poetics seeks to keep poetry open and receptive, not foreclosing options by suggesting answers or by providing ethical imperatives. Instead, Sidney seems to think of poetry as pushing us to ask more questions and to engage with possibility. Here Sidney opposes poetry to philosophy, suggesting that poetry, because it can go beyond even those things in human existence, is the superior teacher. He writes,

And whereas a man may say, though in universal consideration of doctrine the poet prevaieth, yet that the history, in his saying such a thing was done, doth warrant a man more in that he shall follow—the answer is manifest: that, if he stand upon that was (as if he should argue, because it rained yesterday, therefore it should rain today), then indeed hath it some advantage to a gross conceit; but if he know an example only informs a conjectured likelihood, and so go by reason, the poet doth so far exceed him as he is to frame his example to that which is most reasonable (be it in warlike, politic, or private matters), where the historian in his bare 'was' hath many times that which we call fortune to overrule the best wisdom. Many times he must tell of events whereof he can yield no cause; or if he do, it must be poetically.²⁷⁹

Sidney is arguing here that the poet is superior to the historian because the historian must restrict himself to what was, whereas the poet can “range in the zodiac of his own wit.” This means here that the historian using examples of great persons will end up following those examples strictly; the poet, on the other hand, can reshape the purposes, situations, and the responses of those great persons to attend to a new problem. In this regard, the poet can safely ask, “what may Alexander have done in this situation?” The poet is free to imagine what a great moral exemplar may have done in a different situation given what we know about what they have done. This is the flexibility the poet offers to thinking and to political and ethical engagement. Poetry can suggest

²⁷⁹ Ibid., 224.

possible responses without mandating them or affirming them. They are possibilities given what we know and what we think we can and might do.

Sidney understands poetry as moving-teaching, open to new circumstances and new possibilities, and which does not foreclose inquiry, understanding or action by prescribing certain deeds and certain interpretations. This open and dynamic understanding of teaching is echoed by Bill Readings in his pedagogical suggestions in *The University in Ruins*. There he writes,

the aim of pedagogy should not be to produce autonomous subjects who are supposedly made free by the information they learn, which is the Enlightenment narrative. Rather, by relinquishing the claim to join authority and autonomy, the scene of teaching can be better understood as a network of obligations. Arguing that teaching is a question of justice not a search for truth [I try] to evoke what remains persistently troubling in the business of thinking together. As such, the transgressive force of teaching does not lie so much in matters of content as in the way pedagogy can hold open the temporality of questioning so as to resist being characterized as a transaction that can be concluded, either with the giving of grades or the granting of degrees.²⁸⁰

Readings sees teaching in remarkably similar terms to Sidney. Sidney's poetic theory, as I've shown above with the Pugliano example, also encourages readers to relinquish authority, both their own, and not to be fooled by the authority of others. Next, Sidney understands poetry as directed toward what *might* be, toward possibility; therefore, he also sees the moving-teaching force of poetry as something that cannot be concluded. There will always remain future situations in which one can go wrong, and from and for which one might have something to learn. Sidney's Christian perspective acknowledges that teaching can never achieve perfection. He argues, "This purifying of wit—this enriching of memory, enabling of judgment, and enlarging of conceit—which commonly we call learning, under what name soever it come forth, or to what immediate end soever it be directed, the final end is to lead and draw us to as high a

²⁸⁰ Bill Readings, *The University in Ruins* (Cambridge: Harvard University Press, 1996): 19.

perfection as our degenerate souls, made worse by their clayey lodgings, can be capable of".²⁸¹

Learning and teaching exist precisely because man's nature can never be fully perfected, can never be mastered by the self, and thus learning and teaching, in Sidney's view, remain open until, presumably, the judgment day. The only possible end of teaching and learning is one that cannot be brought about by human means. Also, placing poetry in an ethical context rather than an epistemological one, Sidney clearly believes that the questions of poetry are the questions of justice and not of truth. While certain truths may be created by poetry, these are truths of human existence, community, politics, etc. These are not the transcendent, eternal truths of an experimental process or mathematical judgment; rather, they are historical, changing as human nature and human existence change.

Finally, Sidney thinks the moving-teaching of poetry happens within a "network of obligations." This point is clear initially from the ethical concerns of his poetics. However, he emphasizes it in a few other places in the *Defence* as well. As an example of the "strange effects of...poetical invention," Sidney cites the rhetoric of Menenius Agrippa,

who, when the whole people of Rome had resolutely divided themselves from the senate, with apparent show of utter ruin, though he were (for that time) an excellent orator, came not among them upon trust of figurative speeches or cunning insinuations, and much less with far-fet maxims of philosophy, which (especially if they were Platonic) they must have learned geometry before they could well have conceived; but forsooth he behaves himself like a homely and familiar poet. He telleth them a tale, that there was a time when all the parts of the body made a mutinous conspiracy against the belly, which they thought devoured the fruits of each other's labour; they concluded they would let so unprofitable a spender starve. In the end, to be short (for the tale is notorious, and as notorious that it was a tale), with punishing the belly they plagued themselves. This applied by him wrought such effect in the people, as I never read that only words brought forth then so sudden and so good an alteration; for upon reasonable conditions, a perfect reconciliation ensued.²⁸²

²⁸¹ Sidney, *Defence*, 219.

²⁸² *Ibid.*, 227-228.

Sidney's remark that this tale is notorious because it is a tale points out what appears to be a central absurdity: that poetry should have such an effect on its listeners. If Agrippa was such an excellent orator, why would he dress himself as a "homely and familiar poet" to convince the people to stop their revolt? A more cynical reading of this might argue that Agrippa uses the guise and the language of the poet to manipulate the crowd, thus further inscribing poetry into a network of lies and deceit. However, Sidney's language here suggests an alternative and more positive reading. Agrippa dresses as the poet precisely because he is *homely* and *familiar*, that is, poetry, rather than the "far-fet maxims of philosophy" is near to the people; it is something they are at home with. Sidney opposes the nearness of poetry to the distance and foreignness of philosophy, embodied here by the abstruse 'geometric' abstraction of Platonism. It is the closeness of the poet that allows the tale to persuade rather than the prestige, and therefore, distance, of a powerful orator and politician. The tale itself is also a clue to the importance of poetry: poetry allows us to see and make connections to which we might have otherwise been blind. Agrippa's extended metaphor of the revolting organs reminds us precisely of our network of obligations, and when we revolt against those relations, or misunderstand their relations, then we risk doing irrevocable harm to ourselves. The poet in this example both creates and preserves communities, by allowing them to recognize and experience the importance of closeness and of mutual obligation. The other organs, instead of being destroyed by the gluttonous belly, are in fact nurtured by it, and therefore at home and tied in almost familial bonds with it. Sidney playfully employs the Agrippa example to show the myriad ways in which poetry builds the *sensus communis*, providing a way to make difficult and foreign ideas familiar, and by binding the community together in a mutual understanding.

The notion of the *sensus communis*, of the network of obligations was not foreign to an early modern understanding of poetry. Near the end of the work, Sidney places his *Defence* in conversation with Dante's *De vulgari eloquentia* by providing his own apology for English as a poetic language. Beginning with a digression on oratorical style, Sidney argues that the problem with oratory is when it becomes too artificial, and too ostentatious. He writes,

For my part, I do not doubt, when Antonius and Crassus...pretended not to know art, the other not to set by it, because with a plain sensibleness they might win credit of popular ears...I do not doubt (I say) but that they used these knacks very sparingly; which who doth generally use, any man may see doth dance to his own music, and so be noted by the audience to speak curiously than to speak truly.²⁸³

Sidney echoes his earlier passage on Agrippa in this moment by suggesting that a foreign style, that is a style that moves to a different beat than that of the popular ears, is a chief cause of the failure and dismissal of oratory. "Plain sensibleness" in this sense is not the same thing as a plain style; rather it is here meant to echo the earlier sense of "familiar" and "homely." The image of the orator dancing "to his own music" evokes the disruption of the community, and therefore of the *sensus communis*. Sidney segues from this discussion of oratory to poetry in the English vernacular by saying that oratory and poetry, because they "have such an affinity in the wordish consideration" are liable to the same faults.²⁸⁴ English, he says, is "capable of any excellent exercising of it," and that it is not susceptible to the claims that it does not have grammar. Rather, "it truly hath that praise, that it wants not grammar: for grammar it might have, but it needs it not, being so easy in itself, and so void of those cumbersome differences of cases, genders, moods, and tenses, which I think is a piece of the Tower of Babylon's curse, that a man should be put to school to learn his mother-tongue."²⁸⁵ English's superiority lies precisely in the

²⁸³ Ibid., 247.

²⁸⁴ Ibid.

²⁸⁵ Ibid., 248.

fact that its grammar is not, like Greek, Latin, or even French, complicated. Its lack of complicated structures means that it is not foreign to its own native speakers, and using the language is not estranging. Sidney drives home the point that poetic language is tied inextricably to community in his reference to the tower of Babylon. God destroys the city of Babel, and curses its citizens with the confusion of languages for their pride in trying to build a tower to heaven. Allegorically, this story refers to man's estrangement from man, and the destruction of the holy community. Sidney goes even further by commenting that English is free of this curse, suggesting that while not prelapsarian, English is perhaps more divine than other languages.

Community and mutual understanding are the main reasons Dante gives for writing in the vernacular. In *De vulgari eloquentia*, Dante calls vulgar eloquence "courtly." He argues,

if we Italians had a royal court, this vernacular would be spoken in the palace. For if a court is the common house for the whole kingdom and the august ruler of each part of the kingdom, it is right that everything common to the whole and not peculiar to any part should frequent it and reside in it. There is no other dwelling worthy of so great a resident, so great, that is, as the vernacular to which I refer would certainly seem to be. And this is the reason that those who frequent all royal courts speak in the illustrious vernacular; and also the reason our illustrious vernacular wanders like a stranger and finds hospitality in lowly refuges; for we have no royal court.²⁸⁶

In lamenting early modern Italy's lack of political unity, Dante points out that the vernacular still provides the nation with a common sense, and mutual understanding. The image is conflicted. The "illustrious vernacular" is at one and the same time common and estranged. It wanders for lack of a place to reside, a place befitting its status, and yet is still welcomed throughout Italy by those *commoners* who speak Italian and not Latin. In this way, Dante's image shows how a common understanding precedes political unity, even if the former calls up the latter. Ernesto Grassi argues that in this moment, "Dante claims to open the way with his poetry to a new

²⁸⁶ Dante Alighieri, *Literary Criticism of Dante Alighieri*, trans. Robert S. Haller (Lincoln: University of Nebraska Press, 1973): 30.

political reality and thereby to found a new epoch. The “πόλις” or place of the community is not there for him from the beginning. It ‘develops’ or arises through the poetic, imagistic, metaphoric word. In this sense, it claims to be political.”²⁸⁷ It is the poetic word that makes the common understanding, the possibility of the polis, possible. When Sidney speaks of the English vernacular as creating a common world, and of English poetry as creating a “golden world,” we may hear in his theory echoes of these ideas from Dante. Poetry, Sidney seems to be arguing, gives new orientation and new understanding to the world, providing it with future directions, and disclosing heretofore unrecognized possibilities.

In this chapter, I have argued that Sidney’s poetics are skeptical rather than metaphysical or epistemological. Sidney’s debt to Pyrrhonist skepticism, only hinted at in the critical literature, is more significant than acknowledged. Pyrrhonism allows Sidney to engage in a critical debate about the nature of poetry in fundamentally new ways, while still working out critical issues from newly discovered Aristotelian materials. Sidney engages directly with the developing scientific epistemology by arguing that poetry is prior to scientific thinking and because, unlike science and philosophy, poetry does not induce readers into mistakes because it does not encourage readers to its claims as true. Finally, according to Sidney, the temporality of poetry is futural, looking ahead to what might be instead of what is. This temporal aspect of poetry is important for Shakespeare’s *The Tempest* as well. As we will see in the next chapter, the temporality of poetry—for Shakespeare, it is the structure of the occasion—is one that attends to the conditions of the moment, of the phenomena, rather than to the necessary structures of knowing and of technological making-something-happen, i.e. of bringing about a desired effect.

²⁸⁷ Ernesto Grassi, *Heidegger and the Question of Renaissance Humanism: Four Studies* (Binghamton: Medieval & Renaissance Texts and Studies, Center for Medieval and Renaissance Studies, 1983): Pg. 18.

This too finally suggests strong and important differences between science and poetry in the period.

Chapter III: The Temporal Tempest: Technology Between Occasion and Opportunity

I. Introduction

The essence of modern science lies not just in its ability to make everything subject to the “similarities, regularities, and conformities” of law, rather in its essence it is technological. That is, science strips an object, process, or person of the world from which it derives, from the conditions to which it responds, and which shaped it, and makes of that object, process, or even person respond to whatever conditions it wants it to.²⁸⁸ This is the dream of the technological understanding of the world, and in that dream is an understanding of human existence that is divorced from limitations. The drama that plays out both within Shakespeare’s *The Tempest* and in its criticism is one that turns on the conflict between a technological-epistemological understanding of human power, one that emphasizes the ability to enact the will, and an alternative rhetorical understanding which emphasizes the constitutive mutuality of power and its limitations. Whereas of late many critics have come down on one side, arguing that Prospero represents a figure of technological domination of his world, I will argue here that Prospero actually works within a rhetorical understanding of occasion, which emphasizes the boundedness and limitations of human power and activity.²⁸⁹ While grounded in classical metaphysics,

²⁸⁸ Martin Heidegger, “Die Frage nach der Technik” in *Holzwege* (Frankfurt am Main: Vittorio Klostermann, 2003).

²⁸⁹ See Albanese, *New Science, New World*, especially pages 64-67; B.J. Sokol, *A Brave New World of Knowledge: Shakespeare’s “The Tempest” and Early Modern Epistemology* (Madison: Farleigh Dickinson University Press, 2003) throughout; John F. Hennedy traces Prospero’s transformation from all-controlling magus to a figure guided by virtuous empathy in “*The Tempest and the Counter-Renaissance*,” *Studies in the Humanities* 12.2 (1985): 90-105; Goran Stanivukovic contends that Prospero, as a humanist scholar, develops the power to “stir up wonders on earth and save himself from earthly corruption” in “*The Tempest and the Discontents of Humanism*,” *Philological Quarterly* 85.1-2 (2006): 91-119; Fátima Vieira draws parallels between Prospero and the scientists of Salomon’s house in Bacon’s *New Atlantis*,

occasional thinking is developed in the Renaissance through humanist concerns with rhetoric, *kairos*, and historical situation rather than ideal eternal forms. This concern for the historical situation, rather than sharpening one's sense of control over the moment, forces a person or persons, in this case Prospero and Caliban, to acknowledge and come to terms with limitation, while also learning to recognizing those moments when action is right, necessary, or even possible. Finally, the play draws an important distinction between modern science and early modern poetic and artistic practice, between the drive for mastery and control, and the understanding for patience and purpose.

The desire to view everything in terms of modern scientific epistemology is not a new one. Gadamer reminds us that the modern German word for 'humanities' the *Geisteswissenschaften*, is a translation of a phrase from John Stuart Mill, "moral sciences."²⁹⁰ Mill had wanted to make inductive reasoning the foundation of modern ethics, and according to Gadamer,

Even in the context of Mill's *Logic* it is apparent that there is no question of acknowledging that the human sciences have their own logic but, on the contrary, of showing that the inductive method, basic to all experimental science, is the only method valid in this field too. In this respect Mill stands in an English tradition of which Hume has given the most effective formulation in the introduction to his Treatise. Human science too is concerned with establishing similarities, regularities, and conformities to law which would make it possible to predict individual phenomena and processes.²⁹¹

arguing that Prospero is given these magic powers to critique the limits of natural philosophy in "Prospero's 'magic garment': The Place of Science and Magic in *The Tempest*," *A Tangled Web: Ideas, Images, Symbols*, eds. Viana Ferreira, J Carlos (Lisbon: University of Lisbon Centre for English Studies (ULICES), 2007): 103-122. Donald Carlson similarly argues that Prospero's "magic is technology" (8) and that the play shows the dangers of using that magic-technology in "'Tis New to Thee': Power, Magic, and Early Science in Shakespeare's *The Tempest*," *The Ben Jonson Journal* 22.1 (2015): 1-22.

²⁹⁰ Gadamer, *Truth*, 3.

²⁹¹ Ibid.

From the Enlightenment onward, the humanities have represented merely a subset of largely epistemological concerns. In this tradition, their logic has also been one of establishing law-like regularities that that can “predict individual phenomena and processes.” Such a logic is apparent in contemporary criticism in the Digital Humanities’ turn toward big data mining projects, such as those represented in Franco Moretti’s *Graphs, Maps, and Trees* or in Michael Witmore and Jonathan Hope’s docuscope projects. Mapping transhistorical statistical phenomena across a body of literature is one way of establishing law-like regularities.²⁹² In this way, the humanities have been denied their own logic, as Gadamer says, or humanists themselves have forgotten and occluded that logic. Given this desire to reorient humanistic inquiry toward a more empirical base and the increasing concern with the long and complicated history of science and scientific ideas, it comes as no surprise that literary critics writing about Shakespeare’s *The Tempest* have turned toward the resources and thinking of scientific epistemology—which, in brief, is the belief that all phenomena can and should be explained by laws that can be applied equally to all phenomena—to explain and interpret the most difficult cruces in the play.

B.J. Sokol, Elizabeth Spiller, and Scott Maisano are among the more recent critics to think about the relationships between modern epistemology and Shakespeare’s play. All three

²⁹² Hope and Witmore argue, “Computer visualisation, for example, can allow access to ‘whole’ texts, just as they can allow us to visualize solutions to mathematical problems...If computers allow us to experience something like a simultaneous (as opposed to linear), ‘total’ reading of a text via topographical visualisation, they also allow us to pay closer attention to the thousand birches surrounding the three oaks. Strangers to saliency, computers treat all pieces of information equally: they are just as aware of the 609 usages of the word ‘the’ in *Macbeth* as the 35 uses of ‘hand’.” Because computers are “strangers to saliency,” they reduce utterances within a literary text to strings of words that all have the exact same value. This is one primary way that the contemporary humanities continue to operate within the logic of ‘scientific humanism.’ By assigning statistical value to words rather than understanding utterances, scientific humanism can regularize heretofore irregular reading practices. In the absence of a “cognitive theory of reading,” according to Hope and Witmore, our readings cannot be empirically validated and thus remain subjective. Jonathan Hope and Michael Witmore, “The Very Large Textual Object” *Early Modern Literary Studies* 9.3 (2004): 1-36. “<http://extra.shu.ac.uk/emls/09-3/hopewhit.htm>”

believe that Shakespeare's works and the works of modern science shared remarkably similar practices or aesthetics, so similar, in fact, as to erase whatever distinctions we may have traditionally seen between Shakespeare's art and, for instance, the precise mathematical observation of Galileo. Sokol writes, "One might note that Kepler sought musical harmonies in nature; that Galileo's father, an important influence on him, was an eminent musical theorist; that Galileo was a literary scholar; that Girolamo Fracastro...Kepler, and Thomas Harriot wrote poetry; or that Kepler and Newton each gave much attention to philological questions."²⁹³ Effectively: if the practices of the scientists and the literary figures don't differ, then it can hardly be said that their cultures and their cultural productions differ. Elizabeth Spiller takes this a step further, agreeing with Sokol that there was no cultural difference between the arts and sciences in the 16th and 17th centuries, and that this led to a "new epistemological status."²⁹⁴ She continues,

For a brief period in intellectual history, art was accepted as what I would like to call a knowledge practice. Aristotelian understandings of knowledge as eternal, unchanging, and 'that which cannot be otherwise' involved a fundamental exclusion of the human from its categories; the historic shift in the early modern period away from that model of knowledge thus required the interjection of the human, the introduction of various forms of human invention and intervention, that is to say, art into what counted as knowledge.²⁹⁵

For Spiller, early modern scientists and experimentalists had, like the artists of the period, been affected in their thinking about knowledge by craft practices of the period. Noting that the English word "fact" comes from the Latin participle *factum*, Spiller concludes that knowledge is *made* through human practices, "invention and intervention."²⁹⁶ Knowledge was no longer discovered but made.

²⁹³ Sokol, *Brave*, 16-17.

²⁹⁴ Elizabeth Spiller, "Shakespeare", 24.

²⁹⁵ Ibid.

²⁹⁶ Spiller, *Science*, 5-10.

The Renaissance, according to these critics, was a short period of time in which the concerns of scientists and poets converged and transformed utterly the world. This insight challenges Gadamer's sense that the humanities have a logic of their own, and asks us rather to consider the reciprocities between scientific and humanistic thinking in their own historical development. In a chapter on the intersections between colonialism, experimentalism, and humanism in the period, Denise Albanese remarks that in the sixteenth and seventeenth centuries, "the 'literary' ... came into problematic visibility as a function of the emergence of scientific practice."²⁹⁷ She argues, that instead of continuing from antiquity to the present, "the modern taxonomies of writing," the differences between fiction and fact, "begin to produce and reproduce themselves" in the period.²⁹⁸ Agreeing with Spiller and Sokol, Albanese argues that the differences between the scientific and literary cultures do not exist in the late Renaissance as they do for us. This insight forces us to acknowledge that early modern poets may have been just as concerned with natural philosophical questions—the composition of the heavens, the mechanics of the body, the nature of materiality—as were early modern scientists, and that their poetic and scientific concerns were mutually constitutive. For critics, this has become a call to investigate and understand the reciprocities between this traditionally delimited set of concerns and to ask what contributions artists have made to scientific thinking and scientists to the arts and other humanities.

It is precisely this call that has inspired Scott Maisano, for instance, to conclude that Prospero's "revels" speech in fact makes serious claims about the materiality of the globe and of

²⁹⁷ Albanese, *New*, 48.

²⁹⁸ *Ibid.*

the heavenly spheres.²⁹⁹ Yet, as I have noted in my first chapter, while this understanding of science and art in the Renaissance as co-terminus phenomena is certainly compelling and has opened up new insights into the reciprocities between the two “knowledge-practices,” it does not provide an adequate account of how the ancient boundaries between the arts and the sciences broke down even for this very brief period of time.³⁰⁰ But more importantly, this historiography that focuses solely on the cultural conditions of the rise of new science often fails to articulate clearly what the essential similarities between science and art were in the period. That is, aside from the co-occurrence of Shakespeare and the new science, and the ‘unity’ of the culture from which they emerged—even if differing cultural strains played roles in shaping the arts and the new science, they still emerged from porous cultural formations that existed in the same time and place—many critics cannot or do not say what makes these things essentially the same. Or when they do, they do so elliptically, eliding fundamental assumptions about their arguments. Spiller, for instance, does so through an analogy that sees Prospero’s actions on the island as akin to an experiment in the natural sciences. She writes,

Prospero uses his art in both the initial shipwreck and the subsequent manipulations of the humans on the island not for revenge, retribution, or even in any simple way to enable his return to power. Rather, the end of Prospero’s “art” is knowledge and, if at the close of the play, Prospero suggests that what has occurred have only been “happened accidents”...Shakespeare may be emphasizing precisely what it means in the new knowledge culture of early modern England to deliberately and artificially create an accident to simulate reality. Throughout the play, Prospero seeks to make his enemies know what he has known. The shipwreck is a reenactment that subjects Alonso, Gonzalo, and Sebastian to experience a version of the initial marooning that Prospero and the infant Miranda had suffered through their acts...Prospero’s contrivances provide the mechanism by which characters reveal their true purpose and nature.³⁰¹

²⁹⁹ Scott Maisano, “New Directions: Shakespeare’s Revolution—*The Tempest* as Scientific Romance,” in *“The Tempest”: A Critical Reader* ed. Alden T. Vaughn and Virginia Mason Vaughn (London: Bloomsbury, 2014): 165-194.

³⁰⁰ See chapter 1.

³⁰¹ Spiller, “Shakespeare”, 26.

In this interpretation of the play, Prospero's actions are an experiment, an artificial contrivance of the circumstances to reveal two realities: one, Prospero's reality as he experienced it through his deposal and marooning, and two, the reality of the inner natures of these characters. True to the experimental metaphor, Prospero himself is not revealed to be one thing or another, he is the impassive artificer of knowledge, one who plans, measures out, and executes his intervention. Of course, what is missing from this analogy is a complete understanding of the experimental process. Scientists do not merely contrive circumstances in the hope that something true will reveal itself. The experimental process begins with an insight into what the experimenter thinks might be true, the hypothesis. The experimenter proceeds by designing an experiment that will test this insight. How that happens depends entirely on the kind of assumptions that are being tested and the parameters revealed by those assumptions: What does the researcher think the mechanism might be, and what might be the most appropriate method for revealing that mechanism? Similarly, if the analogy between Prospero and the experimenter were to hold, then he too would need a hypothesis, a statement of what he thinks the nature and purposes of the other characters are, and how he thinks his experiment will reveal those. But Spiller's analogy rests purely on that fact that Prospero, like an experimentalist, has also contrived the circumstances. Based on this tenuous analogy alone, Spiller asserts, "Prospero's art stands alongside [Gilbert and Bacon's] experiments as a refutation of Aristotle's claim that art cannot serve as a means to understand nature and that singular events (whether those are dismissed as anomalies, monstrosities, or accidents) cannot produce universal experience or certain knowledge."³⁰² Because these are both contrivances of a kind, made by human beings, art and science are equivalent. By focusing on recovering art as a means of making knowledge, Spiller

³⁰² Ibid.

continues to overlook what lies at the heart of this understanding of knowledge making: namely, human power.

Because human making is at the heart of both art and science, Spiller, like others, concludes that these things are then essentially the same. Toward the end of her essay, she imagines a list of the works that would have been included among Prospero's famed books. Not least of which she included Pico's "Oration on the Dignity of Man," della Porta's *Natural Magic*, and Ficino's *Three Books on Life*. She concludes,

Perhaps this list is wrong in its emphasis, though, insofar as such texts collectively express an attitude toward the relationship between knowledge and power that Prospero only acquires after he has lost his dukedom. Prospero had understood knowledge as its own realm, apart from the world; once he finds himself truly outside that world and indeed only when he must in turn dispossess someone else to regain a place even at the margins of the world, he learns the lesson that knowledge must be used if it is to exist because knowledge cannot be abstracted from the human world. The knowledge of nature is primarily valuable as it provides a power over man. This conclusion, adopted by Prospero in an exile that has taken him furthest from man and closest to nature, is one that Bacon had in mind when he insisted that science may be of nature but must pertain to man: "human knowledge and human power meet in one."³⁰³

The lesson that Spiller and many others draw from Prospero is that knowledge is about power, and that art, as a kind of knowledge, is also about exercising power over other men, other people. What they see in Prospero is his alchemical ability to control a circumstance and to make whatever he wants to out of it. Much like the alchemist who can transmute any base metal into silver or gold, Prospero, in an extended sense, is able to transmute the baseness of Sebastian and Alonso into the gold of repentance, of shared experience, of mutual understanding, regardless of who those men were or what they are. When at the beginning of her essay, Spiller claims that early modern thinkers objected to an Aristotelian understanding of science because "Aristotelian understandings of knowledge as eternal, unchanging, and 'that which cannot be otherwise'

³⁰³ Ibid., 35.

involved a fundamental exclusion of the human from its categories,” what she misses is that Aristotle does not exclude the human but an understanding of the human as the bearer of limitless capacities of power.³⁰⁴

III. Humanism and its Discontents

Spiller’s concerns about the relation between art and power, human making and contrivance in *The Tempest* are part of an on-going conversation about the meaning of human and humanity in humanism. In this important and influential introduction in the 1954 Arden edition of the play, Frank Kermode argues that one of the central tensions of the play is the opposition between nature and art. Characteristically, he ascribes these two poles to Caliban and Prospero.

Kermode’s distinction between Caliban and Prospero is crude but instructive. He argues, “The main opposition is between the worlds of Prospero’s Art, and Caliban’s nature. Caliban is the core of the play, like the shepherd in formal pastoral, he is the natural man against whom the cultivated man is measured...Caliban represents...nature without benefit of nurture; Nature, opposed to an Art which is man’s power over the created world and over himself, nature divorced from grace, or the senses without the mind”.³⁰⁵ Kermode sees at the core of the drama a play of values, cultivated versus uncultivated man, and power. By defining art as “power over the created world and over [man] himself,” Kermode has conceived of art as the power to impose values on the natural and created world. Art is the will to power. Whether they agree or disagree with Kermode’s identification of Prospero with Art and Caliban with Nature, as I noted above, recent critics have absorbed the tendency to see the play as concerned with the will to power, that is, how art can be used to make and remake the world in man’s image, consecrating one set of

³⁰⁴ Ibid., 24.

³⁰⁵ Frank Kermode, “Introduction” in *The Tempest*, ed. Frank Kermode (London: Methuen & Co Ltd, 1972): xxiv-xxv.

values or another. This is instructive because, while, I will argue, it fails to understand the questions Shakespeare seems to be asking about the relationship between power and art, these critical insights move us closer to the areas of the play's concern.

Rather than defining art as the will to power as Kermode thinks the play does, Shakespeare's *The Tempest* seems concerned rather with precisely this relationship and its meanings. The drama does not simply attempt to assert Prospero's (and by extension, Shakespeare's) magical or artistic power over nature (Caliban), rather by dramatizing multiple and varying acts of power and control—magical, artistic, political, natural, supernatural, etc.—and placing them in various relationships, not always opposing, Shakespeare seems to be asking us to think more deeply about the nature and possibility of power over something. Rather than offering a positive allegory about colonial or experimental control over people and nature, for instance, Shakespeare is interrogating the meaning of technology, its possibilities, configurations, and finally its limitations.

But even thirty years after the rise of post-structuralist and post-colonial criticism, the conversation around art and power in *The Tempest* is still mired in the same basic binaries that motivated Kermode's rather limited introduction. Like many others, Jonathan Bate, writing in 1994, wanted to return the conversation about *The Tempest* from a long-standing concern about the play's relationship to English colonialism to what he calls the play's master-discourse, humanism.³⁰⁶ For Bate, humanism and its concerns over “the power of the book...the relationship between nature and nurture...the knowledge that comes from the classics” are the play's central themes, even in the absence of a direct textual source.³⁰⁷ He argues that in line

³⁰⁶ Jonathan Bate, “The Humanist Tempest” in *Shakespeare 'La Tempête': Études critiques* ed. Claude Peltraut (Besançon: Université de Franche-Comté, 1994): 7.

³⁰⁷ *Ibid.*, 8

with the humanist guides for princes written by Erasmus and Thomas More, “the premise of the play is that good kingship cannot be asserted by name alone, [*sic*] it must be proved through good action.”³⁰⁸ Before the start of the play, Prospero is a failed humanist because, while he reads, his knowledge and learning are not put to any use.³⁰⁹ Rather, Prospero’s “pure contemplation,” which he comes to regret after his deposal, prevents him from being authentically humanist. For Bate, “good humanism is intended to awake a virtuous nature by means of imaginative empathy,” and because Prospero’s contemplative humanism allows his brother Antonio to usurp his power, means that Prospero’s humanism has failed.³¹⁰ This imaginative empathy works both for the humanist—that is, he should learn how better to empathize with others through his contemplation—and for those around him, especially his students, in that the humanist then models this empathy. This empathy isn’t, as Bate adds, “philanthropic kindness,” but the development of the distinction between man and animal.³¹¹ The essence of humanism is the development of a moral practice whereby we become more *human* to each other, that is, whereby we distinguish ourselves in our actions regarding other humans as human. “Education and training in the liberal arts” are “the highest achievement of the human,” and “the acquisition of language is the essential civilizing pre-requisite” of distinguishing

³⁰⁸ Ibid., 9

³⁰⁹ We know, however, from works like Anthony Grafton and Lisa Jardine’s *From Humanism to the Humanities: Education and the Liberal Arts in Fifteenth- and Sixteenth-Century Europe* (Boston: Harvard University Press, 1986), that while humanist educators often claimed that through their pedagogical practices “the student was to make that life-giving contact with the ancient world, understood in all its historical vitality, that would enable him to be an active citizen in his own time,” the reality was significantly less glamorous (18). Most students would spend their days copying down copious lectures on the most mundane lexical and grammatical details of a single classical work, rarely moving beyond it to another text, let alone to an active political life. In their view, humanist education rather than encouraging active and thoughtful engagement with the world, instead, “fostered the sort of personality traits that any Renaissance ruler found attractive: above all, obedience and docility” (24).

³¹⁰ Ibid., 11.

³¹¹ Ibid., 8.

between man and animal. Humanism, for Bate, adds another layer to the Aristotelian definition of man.³¹²

If drawing distinctions between man and animal is the ultimate goal of humanism, then Bate has little room to claim that humanism is a “master-discourse” separate from colonialism. After all, the distinctions are what form the backbone of the colonialist enterprise. We would have to agree with Denise Albanese that,

The Tempest [as a humanist text] now exposes the complicity of literary discourse in the institution and maintenance of a dominant culture: it has thus become nearly an orthodoxy in itself to discuss the play as the literary palimpsest of early modern European imperialism, as a text that enacts the suppression of alternative modes of signification and erases signs of difference in a consolidation of European cultural hegemony.³¹³

If humanism is solely about the process of *humanizing* a person, then as a context of *The Tempest*, it is not a master-discourse separate from colonialism, but one synonymous with it. As Albanese points out, literary discourse, humanism, was a powerful tool of the colonizer. In making a ‘native’ more human, the colonizers were in fact engendering a sense that their values, that their way of life was what made one human. Not being European is, by this logic, the same as not being human. When understood as a discourse that draws the distinction between the human and the animal, humanism does not avoid the charge of colonialist thinking; rather it confirms that it is colonialist thinking. In this regard, colonialism is, like humanism, the master-discourse. Bate unwittingly reinscribes both humanism and the play into the social, political, historical, and interpretive contexts from which he originally sought to free them.

However, we might still be able to pursue Bates’ intuition that humanism is not as inextricably bound to colonial concerns as critics have long argued. This is not to suggest that we

³¹² Ibid.

³¹³ Albanese, *New*, 72.

can side-step the question of *The Tempest*'s links to colonialism, nor is to suggest that we can still conceive of humanism as a master-discourse beyond the taint of colonialism. Not only would such an endeavor be historically vexed from the start, but it is also interpretively a non-starter. If, as Bate suggests, a master-discourse contains "nearly all others," how can you tell the container from the contents?³¹⁴ Hermeneutically speaking, given the circular nature of understanding, all discourses could potentially—and likely do—contain the others. The overlapping but also perspectival nature of understanding prevents any discourse from ascending to the status of a master-discourse containing all others. At most, a discourse appears dominant only with the context of certain interpretive phrases. A so-called master-discourse articulates one perspective. This does not mean, however, that because it is perspectival, that the interpretation is somehow spurious. Rather, it only forces us to constantly consider the conditions of any interpretation.³¹⁵ An awareness of the limits of any interpretation, its questionableness, opens us

³¹⁴ Bate, "Humanist", 6.

³¹⁵ We need only look to Nietzsche's understanding of nihilism as "the highest values devaluat[ing] themselves" (9) to see how interpretations become contingent, and thus finally incapable of superseding one another in terms of explanatory power. Every interpretation is value-positing, and through history, those values are revealed to either be meaningless, contingent, or less valuable and powerful than they were claimed to be initially. The effect of this is that every interpretation is perspectival, and thus nothing takes precedence. Later Nietzsche writes, "'Everything is subjective,' you say; but even this is interpretation. The 'subject' is not something given, it is something added and invented and projected behind what there is.— Finally, is it necessary to posit an interpreter behind the interpretation? Even this is invention, hypothesis" (267). In Nietzsche's philosophy, even the reproach that everything is subjective requires the unnecessary invention of a subject who posits and interprets the world. This, too, is a value-positing act, contingent, and finally transitory. For Nietzsche, however, these interpretations are powerful even if limited, and give us ways of acting in the world, even if we know that they will eventually be dispensed with in *The Will to Power*. A note: I rely here on the English translation of the work because there does not appear to be a scholarly edition in German. Kaufmann's work in editing the controversial collection of Nietzsche's late aphorisms, later collected and published by his anti-Semite sister, remains unparalleled work of Nietzsche studies in any language.

up to the possibility of seeing difference and letting it speak, one of the key conditions, if we are to invert Albanese's assertion about literary discourse, of a counter-colonialist way of thinking.

Attending and being open to difference might be key aspects of a new method of thinking about literature and literary history. The second piece of Bate's definition of a master-discourse is that the master-discourse not only contains all other discourses, but that it too should be an interpretive method. I would like to suggest that there is another version of Renaissance humanism that might both be open to difference and itself be an interpretive method, and that might help us begin to see *The Tempest* as not merely reducible to the discourses of colonialism. I would like to suggest that the thinking of Leonardo Bruni forms the discursive con-text for an alternative form of humanism in *The Tempest*, one that may, at least partially, begin to fulfill Albanese's expectations of a counter-colonialist discourse.

According to Ernesto Grassi, the new philology of the *studia humanitatis* is this philosophy of openness for which Albanese seems to be calling, though it is of course now very old. Humanist philology, argues Grassi, asks us to check the meaning of words through "the labor of research, interpretation within the bounds and unity of a sentence, of a text, of an author, and of a language."³¹⁶ This is all new because humanist philology asks us to check our desire to read into a text what we already know and expect, a fault, Grassi argues, that was characteristic of medieval philology. The medieval philologists, Grassi believes, read classical texts as anticipating Christian truths. Rather than understanding their philological work as being bounded by the world from which a text arrived, the medieval philologists understood the horizon of their work to be that of the continuous revelation of eternal Christian truths. Whereas the medieval

³¹⁶ Ernesto Grassi, "Der Beginn des modernen Denkens: Von der Leidenschaft und der Erfahrung des Ursprünglichen," *Geistige Überlieferungen: Ein Jahrbuch* 1 (1940): 62, translation mine.

philologists worked assiduously to use the past to confirm their own values and ways of thinking, humanist philology required readers and translators to stand still before a text and find ways to inhabit its world rather than to force the text to inhabit their own. This is, Grassi believes, the true meaning of objectivity in the *studia humanitatis*, that is, to let the object, the text “open up to us a world of differences.”³¹⁷ The differences are those crucial differences between the world of the text and our own world. Grassi points to the work of Leonardo Bruni (1370-1444) as inaugurating this perspective.

Bruni’s letter to the Lady Battista Malatesta of Montefeltro on the study of literature contains many of these important insights about the nature of the *studia humanitatis* and the liberal arts, and more importantly, of the study of literature. Because it is a letter to a well-to-do and well-educated Italian lady for whom the study of literature has no practical or vocational value, the letter appears sometimes to suggest that the study of literature has more to do with self-fashioning and appearing cultivated than with any higher philosophical concerns. This resonates with the interpretation of humanism that we saw in Jonathan Bate’s work above, and it is indeed in this vein that Craig W. Kallendorf has translated the work. For instance, he translates “Sic enim resultat plenum quiddam ac sufficiens, ut copiosi, ut varii, ut ornati, ut nulla in re vacui rudesque videamur” as, “For thus comes that full and sufficient knowledge we need to appear eloquent, well-rounded, refined, and widely cultivated.”³¹⁸ Such a reading preserves the sense that the *studia humanitatis* are primarily about style over substance, about distinguishing man from animal through the arts. Appearing cultivated, eloquent, etc. is just one more way to raise yourself above the animals and perhaps even your peers. Grassi, however, providing a

³¹⁷ Ibid.

³¹⁸ Leonardo Bruni, “The Study of Literature,” in *Humanist Educational Treatises* trans. Craig W. Kallendorf (Boston: Harvard University Press, 2002): 122-123.

different translation for this passage, which I will discuss later, suggests a completely different way of reading Bruni's important text, one which reveals not just another means of political and social and self-fashioning but rather a way to open up possibilities.

Bate argues that humanism collapses the past and the present to understand the present based on past authority.³¹⁹ But humanism's interest in the past does not rest on its authority. Rather, the past opens to us a world of difference which in turn reveals to us the forms of our own present.³²⁰ Bruni writes,

Everyone knows that in the first instance the mind needs an instructor to train and as it were to initiate it so that it can recognize not only the parts of speech and their arrangement, but also those smaller details and elements of speech. But these we absorb in childhood as though dreaming; afterwards when we have moved on to greater things, they somehow come back to our lips, and it is only then that we taste their sweetness and true flavor.³²¹

Bruni here is analogizing our learning of languages, both our native and foreign ones, to that of studying literature. When we first learn a language, especially our native one, we absorb the rules and the structures as if we were sleeping. It is a passive learning that doesn't, and perhaps shouldn't, require us to think about the larger significances of what we are learning. Only later when we come to speak do we come to know what language is and what it means for us, and it is through the process of speaking that language is transformed for us, becoming sweet and delicious whereas, at first, we may not have even noticed that it had a flavor. The same is true of our study of literature. What we first read, especially when we are young and gaining a sense of how to read and to understand a work, the work and the work of reading seem nebulous and perhaps even meaningless to us. Returning to that work estranges us from those initial experiences, transforming us in the process, giving us a sense of what the meaning of the work

³¹⁹ Bate, "Humanist", 7.

³²⁰ Grassi, "Beginn", 51.

³²¹ Bruni, "Study", 95.

might be. Bruni continues by saying that developing a keen critical sense requires the reader to “study the reasons why the words are placed as they are, and the meaning and the force of each element of the sentence, the smaller as well as the larger; he must thoroughly understand the force of the several particles whose idiom and usage he will copy from the author he reads.”³²² It is possible here to see the critical sense as just one of knowing how and what to copy and mimic from classical authors in order to appear cultivated, but in fact, the study of reasons goes well beyond stylistic concerns. Bruni reminds us that in our own reading and writing we should pay attention to “the time at our disposal to give preference to those things that are most important and most useful.”³²³ This is not just prudent advice about how to make decisions about our lives when we know we are going to die, but it is also a principle of interpretation. As readers, we must also concern ourselves with the concerns of the authors we read to truly understand them. Reading a classical text, then, is not only estranging in its distance and differences from us, but it is also something that forces us to attend to the differences that shape the concerns of the text. In this regard, the practice of humanist philology forces us to pay attention to a world of differences.

So, when Bruni argues that it is from the study of literature that “comes that full and sufficient knowledge we need to appear eloquent, well-rounded, refined, and widely cultivated,” he is arguing that the practice of reading literature is more than merely furnishing our minds with models and exempla. Style is the key to a new way of thinking about the world, and the cornerstone of humanist philosophy. Of course, many historians and scholars of the Renaissance disagree with this conclusion, most notably and most forcefully is Paul Oskar Kristeller.

Kristeller’s programmatic essay, “Humanism and Scholasticism in the Italian Renaissance”

³²² Bruni, “Study”, 97.

³²³ Ibid., 109.

contends strongly that “Italian humanists on the whole were neither good nor bad philosophers, but no philosophers at all.”³²⁴ He continues, “The humanist movement did not originate in the field of philosophical or scientific studies, but it arose in that of grammatical and rhetorical studies. The humanists continued the medieval tradition in these fields, as represented, for example, by the *ars dictaminis* and the *ars arengandi*, but they gave it a new direction toward classical standards and classical studies...”³²⁵ For Kristeller, “the humanists did not invent a new field of learning or a new professional activity, but they introduced a new, classicist style into the traditions of medieval Italian rhetoric.”³²⁶ While certainly not meaningless, the essence of humanism can be reduced to questions of style. One cannot rightly criticize the humanists for not having developed a philosophy of their own, because that was never their intention: “Yet the humanists merely intended to speak well, according to their taste and to the occasion...”³²⁷ While more nuanced accounts of the problem of humanist style ascribe to it more than a desire just to speak well, especially Stephen Greenblatt’s sense of art and its relation to self-fashioning in *Renaissance Self-fashioning*, the sense remains that humanism’s driving concern is style, and that it never develops into a philosophy of its own.

Bruni argues that true learning “joins literary skill with factual knowledge.”³²⁸ The only way to achieve this knowledge is by reading the classics because their words are well chosen and well placed. He argues, “The reader must study the reasons why the words are placed as they are, and the meaning and the force of each element of the sentence, the smaller as well as the larger; he must thoroughly understand the force of the several particles whose idioms and usage he will

³²⁴ Paul Oskar Kristeller, “Humanism and Scholasticism in the Italian Renaissance,” in *Renaissance Thought and its Sources* (New York: Columbia University Press, 1979): 91.

³²⁵ Ibid.

³²⁶ Ibid., 93.

³²⁷ Ibid., 95.

³²⁸ “ingenuam, quae litterarum peritiam cum rerum scientia coniungit.” Bruni, “Study”, 94.

copy from the authors he reads.”³²⁹ Bruni stresses the importance of the details, of all of the elements of meaning of a literary work because for him, literary skill is about variety and difference. Later he writes,

It is true that the marvel of human excellence, that excellence which raises a name to genuine celebrity, is a direct result of wide and various knowledge; and it is true, too, that we should read much and learn much, selecting, acquiring, weighing, and examining all things from all points of view, from which process we derive great benefit for our studies. Yet at the same time we should choose carefully and consider thoughtfully the time at our disposal in order to give preference to those things that are most important and most useful.³³⁰

The Latin phrase that is here glossed as literary skill indicates to us why Bruni ends his comment here with a note about usefulness. The “*litterarum peritita*” the skill, experience, or practical skill of letters has a time and a place, and while one should be well-educated in letters, one should also keep in mind “the time at our disposal,” i.e. the time to which we can reasonably dedicate ourselves to study but also the time to which these studies might be well-disposed. These studies have a place, a purpose, a function, and a utility that is opposed to appearing just literary or erudite.³³¹ But as an experience, this is the experience of variety, of difference, “selecting, acquiring, weighing, and examining things from all points of view.” It is this sense of difference which we gain, according to Bruni, from style. Style is not mere decoration or a display or artfulness; it is in style that we begin to develop a keen sense of difference. The various elements of a language, of a work, and of a moment that combine to create style are what force our attention, as philologists, as lovers of words, and as writers to the subtle and important complexities of human existence.

³²⁹ Bruni, “Study”, 97.

³³⁰ *Ibid.*, 109

³³¹ Grassi notes that that when the study of literature has been reduced to a hobby, something undertaken merely out of pure interest, then it has lost its genuine meaning, “Beginn”, 50.

Finally, when Bruni writes that from the study of literature “comes that full and sufficient knowledge we need to appear eloquent, well-rounded, refined, and widely cultivated,” it is important to remember that style is raised to a philosophical question for him. Realizing this also helps to change our understanding of this sentence, which this translation reduces, it seems, to merely appearing to be cultured. Bruni in fact writes, “Sic enim resultat plenum quiddam ac sufficiens, ut copiosi, ut varii, ut ornati, ut nulla in re vacui rudesque videamur.” A more literal translation of the whole section would be as follows:

Then finally there is no excellence, the excellence of which I speak, unless it come from an examination of the wide and various. And therefore it is necessary to see and read much philosophy and poetry and oratory and history, and to bestow great pains [in learning] the work of all the great writers. And thus results a certain fullness and sufficiency so that we appear to be copious, diverse, well-equipped, not rude nor lacking in anything.³³²

By returning to the original Latin, we can see that Bruni has more in mind than just being cultivated and well rounded. Being well rounded is important, that is having read and understood much, especially of the classical writers, but as the final sentence stresses, the importance of this learning is difference. Bruni further stresses that this style is about ability and the copiousness of style, which is meant to convey the importance of difference and plurality of meaning. Moreover, through his use of the word “ornate” Bruni further stresses that this style is also about ability. Our English ears make the smooth connection between this Latin word and our own sense that style is superficial and without substance. Ornate is for us a word that often connotes something which is unnecessarily showy. We would be right to agree with Kristeller, then, that sometimes humanists just wanted to “speak well.” However, this word can also connote “well-

³³² “Omnino enim praestantia illa, de quo loquor, non nisi ex multarum variarumque rerum fit cognition. Itaque multa vidisse legisseque oportet et philosophis et poetis et oratoribus et historicis et aliis omnibus scriptoribus operam impertisse. Sic enim resultat plenum quiddam ac sufficiens, ut copiosi, ut varii, ut ornate, ut nulla in re vacui reudesque videamur” Bruni, “Study”, 122.

equipped,” meaning that something is well furnished to do something. In this case, it means having the skill or ability to attend to difference. This is the sense in which Grassi translates this passage from Bruni. He writes, “Only thus does something yield itself as full and complete, so that we ourselves appear as rich, versatile, and skillful in every area, and in no regard uneducated.”³³³ We should be skillful in every area, Grassi translates Bruni as saying, not so that we can seem urbane, but so that we can skillfully and thoughtfully attend to the differences that a new or unfamiliar area opens up for us.

That we learn to open ourselves up to a world of difference is the sense in which Grassi wants to interpret, and in many ways recover for contemporary readers, much of Italian Renaissance humanism. He continues his comments on Bruni, saying,

Through which texts should this deepening of our experiences happen? Through the classics, because they open up for us the different worlds. Time passes away, things change, history unfolds itself, but the original forms of reality are always the same, and it is on those that we measure time; we must therefore stake ourselves on the classics in order to attain sight and to achieve the unfolding of ourselves. Therefore listening to something that isn't ourselves in the lessons of the classics is a task that the youth should perform, and a task that will lead us as if from sleep to a state of wakefulness. This education should sharpen our capacities. In ourselves, we must test and appoint the clarity of our feelings and our diverse proclivities. One must persist in this work with diligence, carefulness, and love, and that means allowing oneself to be seized and carried away by this world of differences. In this way the reading of texts is an opening of worlds. Only through such an education will we become free people.³³⁴

³³³ “Nur so ergibt sich etwas Vollständiges (plenum) und Vollkommenes, so daß wir selbst als Reiche und Vielseitige und in jedem Gebiet Gewandte und in keiner Hinsicht als Ungebildete (rudes) erscheinen.” Grassi, “Beginn”, 51.

³³⁴ “Durch welche Texte soll die Vertiefung unserer Erfahrung geschehen? Durch die klassischen, den durch sie werden uns die verschiedene Welten eröffnet. Die Zeiten vergehen, die Dinge wandeln sich, die Geschichte entwickelt sich, aber die ursprünglichen Formen der Wirklichkeit sind immer dieselben, an ihnen messen wir die Zeit: Wir müssen uns daher auf die Klassiker stützen, um zum Sehen zu gelangen und die Entfaltung unseres Selbst zu erreichen. Daher ist das Unselbstabhören bei der Lektüre der Klassiker eine Arbeit, die von Jugend an geübt werden muß und die uns wie aus dem Schlaf zu einem Zustande des Wachseins führt. Diese Erziehung soll unsere Aufnahmefähigkeit verschärfen. Wir müssen in uns selbst die Klarheit der Gefühle, unsere verschiedenen Neigungen prüfen und bestimmen. Man muß bei

Based on Bruni, Grassi's interpretation of Italian Renaissance humanism is fully philosophical, and it rejects the notion the humanists just wanted to speak well, or that their primary concern was self-fashioning. Grassi's interpretation of Bruni argues for a humanism that is deeply concerned with freeing up human possibilities in order that they become freer. But bear in mind that this is not a liberal philosophy. In Grassi's reading, Bruni is not trying to conceive of rights for man under some universally true laws. Rather, freedom here comes from clarifying our feelings and proclivities—a more fundamental objectivity, according to Grassi³³⁵—and from attending to the world differently, ensuring that we are not just hearing and listening to ourselves whenever we engage with something. The classical text, in part because of its distance from us in language, in culture, and in time, forces us to develop these capacities for ourselves. By learning to attend to the world that shows itself in classical texts we can begin to learn to attend to our worlds differently as well. For the humanists, the goal of this kind of learning is finally not a kind of knowledge; rather what is earned is a way of thinking through those things that cannot be easily assimilated to those regular, calculable, and constant canons of thinking to which we submit everything else. It is not knowledge but the capacity to listen and to hear that distinguishes humanist thinking from modern epistemological philosophy. It is for precisely this

dieser Arbeit mit Diligentia, Sorgfalt, Liebe verharren, das heißt immer mehr von dieser Welt der Unterschiede sich packen, sich hinreißen lassen. Daher ist das Lesen von Texten ein Eröffnen von Welten. Nur durch eine solche Bildung werden wir freie Menschen" "Beginn", 51.

³³⁵ "wenn wir an fremden klassischen Texten uns erziehen lassen wollen, so dürfen wir in die Worte, in die Schriften nicht hineinlegen, was wir schon wissen, sondern müssen umgekehrt durch die Mühe des Forschens, des Interpretierens innerhalb der Grenzen und Einheit eines Satzes, eines Textes, eines Schriftstellers, einer Sprache prüfen, was ein Wort bedeutet...Barbarei ist es, einen Text zu Tode zu reden, nicht vor ihm zu schwiegen wissen und sich dadurch lächerlich zu machen, daß man durch Willkür und Unerfahrenheit seine Einheit sprengt. So entsteht die neue Frage der Objektivität: Wie erreicht man diese, woraus entspringt sie, denn am Gegenstand müssen wir uns formieren, bilden, er muß uns die Welt der Unterschiede eröffnen." "Beginn," 62.

reason, perhaps, that modern philosophy in its inception must define itself against the work of humanism.³³⁶

With this digression through Leonardo Bruni and Ernesto Grassi, I have hoped to suggest an alternative tradition of humanism through which we may begin to view Shakespeare's *The Tempest*.

IV. "accident most strange": *The Tempest* and the Temporality of Occasion

If this emphasis on seeing differences is an essential part of humanism as Grassi and Gadamer claim, then do we see it in Shakespeare? If so, how? Here, I would like to argue that Shakespeare poses the problem of difference as a problem of temporality. The polarities that structure Shakespeare's play have little to do with the traditional humanist problem of the choice between the *vita activa* and the *vita contemplativa*, though they are related issues. Rather, Shakespeare demonstrates the consequences of a will, heedless of differences, that asserts itself everywhere

³³⁶ Descartes writes in the *Discourse on Method*: "But I thought I had already devoted enough time to languages and even to reading the classics, to their stories and fables, because conversation with people from other periods is like travelling. It is helpful to know something about the customs of different peoples in order to make a more sensible judgment about our own, and not to think that everything that is different from our ways is ridiculous and irrational, as is usually thought by those who have seen nothing else. But if one spends too much time travelling, one eventually becomes a stranger in one's own country; and if one is too curious about things that happened in past ages, one usually remains very ignorant about what is currently taking place" (qtd. in Rubini, 8). While at first it may sound like Descartes agrees with Bruni that learning the classics is about opening up to a world of difference, his analogy to travelling reveals a less philosophically vigorous attitude. The kinds of judgments travelling allows us to make are value judgments, whether something is as good, better, or worse than what we might experience at home. Whereas Descartes seems to think that reading the classics allows us to make judgments, Bruni argues that reading the classics, in fact, may allow us to more productively suspend our judgments by attending to difference rather than making claims about one aspect of a work or another. In his discussion of the development and legacy of anti-humanism in Italian work on humanism, Rocco Rubini laments the irony that the 20th century anti-Cartesians did not remember the grounds upon which Descartes disregarded humanism, and therefore failed to "seek a historical precedent" in humanism for their own criticism of Cartesianism (5). *The Other Renaissance: Italian Humanism between Hegel and Heidegger* (Chicago: The University of Chicago Press, 2014).

and in every situation. Because this will ignore the structure of temporality and how temporality makes actions possible, and fitting, it ends up being destructive. This is true whether that will be active, as is the case with Antonio's—Prospero's brother and the current duke of Milan's—machinations throughout the play, or passive, as we see with the younger, secluded Prospero. In each case, the character's disregard for the claim that temporality makes on their actions and their being rends the social and political fabric of the play. In contrast, I will argue that Gonzalo, a councilor both to Prospero and Alonso, King of Naples, and Prospero at the end of the play serve to remind both the audience and Shakespeare's other characters that acting in accordance with temporality is productive and contains the possibility for restoring balance and harmony.

As we know, Alonso and his court are returning from the wedding of his daughter Claribel to the King of Tunis. In Act 2 scene 1, in the face of Alonso's son Ferdinand's apparent drowning, Sebastian, Alonso's brother, berates Alonso for allowing Claribel to marry a king whose kingdom is so far from Naples. Given the distance between Naples and Tunisia, though she lives, Alonso's daughter is effectively dead, leaving Naples without a rightful heir. Alonso protests to Sebastian, "You cram these words into mine ears, against/ The stomach of my sense" (2.1.107-108), but Sebastian does not relent. When Sebastian has stepped out of line in his reproach to his king, Gonzalo attempts to toe the line by supplying a momentary distraction. He responds, "My lord Sebastian,/ The truth you speak doth lack some gentleness,/ And time to speak it in. You rub the sore/ When you should bring the plaster" (2.1.137-140). Gonzalo reminds Sebastian of his duty to his king, but also of his duty to the truth and time. Although Sebastian's rebukes may be correct from a certain standpoint, he chooses the wrong time to voice his concerns. Gonzalo reminds him that in the face of the prince's apparent death, Sebastian should be consoling the king, helping him to heal the wound so that he may be able to make

better decisions later, rather than salting the wound with his scolding. While Gonzalo acknowledges that Sebastian is speaking a truth, he also realizes that even truth has its place, its own time, and that just because something is true does not mean that it can be or needs to be acknowledged in every moment. Truth, Gonzalo asserts, is also bound to occasion, a moment or a situation in which it is best spoken. Unlike Sebastian, Gonzalo realizes that while truth may not be relative—in these lines, Gonzalo speaks of “*the* truth”—it does have a context in which it can be best heard and understood. Facing the apparent loss of his son, Alonso is in no position to listen to or understand the truth that his daughter is lost to him as well, and that his kingdom does not have an heir. Truth-telling, Gonzalo acknowledges, has an occasion in which a truth can be both best heard and best acted upon. This is not that moment.

This scene, I will argue, introduces and develops one of the major themes of the play, the relationship between responding to occasion and responding to opportunity. Gonzalo in this moment represents the wise and prudent councilor who can judge when the time is ripe for action—in this case, truth-telling—or when a moment is not yet mature. Sebastian, on the other hand, disregards the nature of the occasion and instead views every moment as an opportunity for self-advancement. Gonzalo’s thoughts and actions respond to the occasion; they attend to a moment or a problem in its situatedness, and thus reduce, at least, the potential for self-centeredness and destruction. Sebastian’s actions and advice, on the other hand, are finally all means for his own self-advancement. The question of the appropriate time for action and the problem of avoiding acting merely out of self-interest is a classic concern of humanists and one

of the major problems of the play as we know from the circumstances of Prospero's deposal.³³⁷

Thomas McAlindon, for instance, argues, in the Renaissance,

Timeliness in human affairs ('ripeness', 'seasonableness', 'opportunity') figures logically as an all-important pragmatic and ethical concept. This goes back to Plato's association of virtue with εὐκαιρία (the well-chosen moment), and to Cicero's praise of *opportunitas* (in the *De Officiis* or *Of Moral Duties*); but no age was more committed to timeliness as a behavioral ideal than was the Renaissance. Timeliness was held to be a prerequisite for all action which is effective, socially proper, and just. Of special significance for the student of the Renaissance is the association of time with justice. In English law-courts, as in Renaissance culture generally, this association was proverbial ('Time is the author of truth and right'): so too was that of injustice and haste.³³⁸

Being able to decide when the time is right to pursue a course of action is just as important as deciding what the action should be. We can see from the example above that Sebastian's rebuke fails to be effective in part because it is improper and thus unjust. Instead of speaking to the needs and the concerns of the moment—Alonso's grief and the strangeness of their situation—Sebastian pursues the truth to the point of cruelty. Actions which are untimely, McAlindon reminds us, were judged in the Renaissance to be unjust and hasty. As a piece that is concerned with the justice and efficacy of actions, we can begin to see the role that timeliness and temporality have in the play.

³³⁷ Rudolf Wittkower discusses the numerous sixteenth century depictions of time, occasion, opportunity, fortune, and virtue that attempt to present Cicero's formula, "Occasio est pars temporis, habens in se alicuius rei idoneam faciendi aut non faciendi opportunitatem..."; occasion is a part of time that has for itself the appropriate opportunity to do or not do something, "Chance, Time and Virtue," *Journal of the Warburg Institute* 1.4 (1938): 313. B.J. Sokol notes that many scholarly discussions of the theme note the "negative aspect in which 'opportunity' facilitates egotistical, expedient or deceitful purposes" and that "In many other English Renaissance texts 'occasion' or 'opportunity' is also associated with what we now would call 'enticement', 'opportunism' or even 'manipulative importunity' (37). *Art and Illusion in the Winter's Tale* (Manchester: Manchester University Press, 1994).

³³⁸ Thomas McAlindon, *Shakespeare's Tragic Cosmos* (Cambridge: Cambridge University Press, 1991): 15.

In narrating the circumstances of his deposal, Prospero only hints at a temporal element to his betrayal and eventual exile. Antonio, Prospero relates, thinks him incapable “Of temporal royalties” (1.2.110), and thus joins with the King of Naples to overthrow him. In using the word “temporal,” Prospero explicitly employs the language of time to discuss his reign as duke, and thus acknowledges its limits. Prospero’s kingdom is temporary because he, like all things under heaven, will eventually die: *sic transit gloria mundi*. What’s acknowledged here, however, is not the perilousness of his own reign, a subtle ironic joke that every king might possibly lose his kingdom to interloping relatives. Rather, his temporal royalties are temporary in comparison to that royalty of the heavenly father.³³⁹ This is essentially a Christian gesture that admonishes us to bear in mind the limitations of any life and of any power. The temporary nature of Prospero’s reign, a reign bounded by the limits and the needs of human existence, is contrasted with Antonio’s *unbounded* confidence. It is precisely Prospero’s neglect of the bounds of his existence and the duties of his dukedom that leads Antonio to overreach his own bounds. Prospero admits his complicity in breaking down the important bounds that shape his and his brother’s life. He says,

I thus neglecting worldly ends, all dedicated
To closeness and the bettering of my mind
With that which, but by being so retired,
O’er-prized all popular rate, in my false brother
Awaked an evil nature, and my trust,
Like a good parent, did beget of him

³³⁹ While the play isn’t explicitly Christian until, possibly, the final scene, Donald Carlson has noted extensive biblical references and parallels throughout the play. He argues that “Prospero renounces the theatrical-political-theological power of his ‘Art’ in 5.1...in favor of an ethic of self-control and humility that relies on biblical reminiscences to foreground its principles. Against the power realized through Prospero’s consultation of his book of spells, Shakespeare juxtaposes the sacred book of Holy Scripture.” While it’s not entirely clear that Shakespeare finally affirms a *Christian* view of self-control and humility, Carlson’s research demonstrates clearly that there is an important Christian context for the play and its thematic concerns, Carlson, “Power”, 10.

A falsehood in its contrary as great
 As my trust was, which had indeed no limit,
 A confidence sans bound. (1.2.88-97)

Prospero acknowledges in this speech that both he and his brother have failed to pay attention to the occasion, that is, to the forces that shape any given moment. For Prospero, his focus on “bettering” his mind forced him to neglect “worldly ends.” The word “ends” in this moment refers both to the goals of ruling, to the things that have to be done, but it might also mean bounds or limitations. Prospero neglects his dukedom both by failing to provide for the needs of his people, thus failing to be engaged in his dukedom, and he also fails because he does not properly understand the limits of his own position. As a duke, he may not have the time to better his mind in the way that he would like. For him this might be an unfortunate but a necessary condition of being a duke. It is a limitation that shapes his possibilities, and which should guide him in deciding if and when to act. Antonio, on the other hand, is not bounded by his own narrow desires; rather his desires, his confidence, are “sans bound.”

Whereas Prospero is unable to make sense of the scope of his own life because he has limited his focus too narrowly, Antonio, his brother, has no focus at all, and he thus fails to make important distinctions between who he is and the part he is playing. Prospero continues,

He [Antonio] being thus lorded,
 Not only with what my revenue yielded
 But what my power might else exact, like one
 Who, having into truth by telling of his,
 Made such a sinner of his memory
 To credit his own life, he did believe
 He was indeed the duke, out o’th’ substitution
 And executing th’outward face of royalty
 With all prerogative. Hence his ambition growing –
 Dost thou hear?
 MIRANDA: Your tale, sir, would cure deafness.
 PROSPERO: To have no screen between this part he played
 And him he played it for, he needs will be
 Absolute Milan. (1.2.97-109)

Prospero's speech, so profound that it would "cure deafness," reveals to us an Antonio whose ambition and pride make it impossible for him to tell the difference between acting as a substitute, and "executing th'outward face of royalty/ With all prerogative." Antonio does not recognize any limitations to his power or his pursuit for power, thus making him "unbounded"; this is the ground of his insatiable quest for more power and prestige. He unburdens himself of his boundaries by lying to himself, becoming "such a sinner of his memory/ To credit his own lie." Memory, then, is figured here as a faculty, which reminds us not of who we are, but of what our boundaries are, as it also gives shape to our real possibilities. As Prospero continues his deposal narrative, he reinforces the sense that he and his brother are two opposing ends of the same problem, saying "Me, poor man, my library/ Was dukedom large enough" (1.2.109-110). Of course, the true bounds of Prospero's dukedom extend significantly beyond the limits of his library, just as the true bounds of Antonio's power are far narrower than his ambition can allow.

The relationship between timeliness and boundedness can be found in Cicero's discussion of *occasio* in *De officiis*. There he writes,

Next, then, we must discuss orderliness of conduct and seasonableness of occasions. These two qualities are embraced in that science which the Greeks call εὐταξία—not that εὐταξία which we translate with *moderation*, derived from *moderate*; but this is the εὐταξία by which we understand *orderly conduct*. And so, if we may call it also *moderation*, it is defined by the Stoics as follows: "Moderation is the science of disposing aright everything that is done or said." So the essence of *orderliness* and of right-placing, it seems, will be the same; for *orderliness* they define also as "the arrangement of things in their suitable and appropriate places." By "place of action," moreover, they mean *seasonableness of circumstance*; and the *seasonable circumstance* for an action is called in Greek εὐκαιρία, in Latin *occasio* (occasion). So it comes about that in this sense *moderation*, which we explain as I have indicated, is the science of doing the right thing at the right time.³⁴⁰

³⁴⁰ "Deinceps de ordine rerum et de opportunitate temporum dicendum est. Haec autem scientia continentur ea, quam Graeci εὐταξίαν nominant, non hanc, quam interpretamur modestiam, quo in verbo modus inest, sed illa est εὐταξία, in qua intellegitur ordinis conservatio. Itaque, ut

It is not incidental that Cicero continually uses the word ‘place’ to describe the timeliness of an action. Time, from certain perspectives, may appear to be eternal, unbounded. But by using the language of place (*locus*), disposing (*colloco*), arrangement (*composito*), etc., Cicero is pointing out to his readers that time, too, has a structure and boundaries. The translator of this edition, Walter Miller, highlights this understanding of time by translating the Latin “*opportunitatem temporis*” as “*seasonableness of circumstance*.” Because “opportunity,” though also technically correct, might convey the sense of “opportunistic,” and thus, heedless and selfish action, Miller has decided here instead to emphasize the sense of ripeness or readiness that seasonableness connotes, and therefore the idea that action and time are conditioned. Just as crops can be out of season, as we know from Ecclesiastes 3, events, and actions can also be out of season. Actions in Cicero’s understanding are not the result of the will of an actant, the subject, bringing something into being; rather an action is something that grows out of a consideration of a wide range of conditions that may include the will of an actor, but whose will is not the decisive factor. The quality and kind of those conditions will change depending on the type of action being considered, but the time of that action is itself bounded by those conditions. Time, here, isn’t simply the instant at which something occurs, rather it is one of the motivating conditions of that event; time is not the receptacle of the event, rather it helps make the event happen.

eandem nos modestiam appellemus, sic definitur a Stoicis, ut modestia sit scientia rerum earum, quae agentur aut dicentur, loco suo collocandarum. Ita videtur eadem vis ordinis et collocationis fore; nam et ordinem sic definiunt: compositionem rerum aptis et accommodatis locis; locum autem actionis opportunitatem temporis esse dicunt; tempus autem actionis opportunum Graece εὐκαιρία, Latine appellatur occasio. Sic fit, ut modestia haec, quam ita interpretamur, ut dixi, scientia sit opportunitatis idoneorum ad agendum temporum”, Cicero *De Officiis*, trans. Walter Miller (Cambridge: Harvard University Press, 1913): 145-147.

In the Renaissance, George Puttenham's *The Art of English Poesy* picks up on this connection as well. Although he calls it decency, Puttenham is thinking about Ciceronian occasion near the end of his treatise on poetry. He writes,

And there is a decency to be observed in every man's action and behavior as well as in his speech and writing, which some peradventure would think impertinent to be treated of in this book, where we do but inform the commendable fashions of language and style. But that is otherwise, for the good maker or poet, who is, in decent speech and good terms, to describe all things and with praise or dispraise to report every man's behavior, ought to know the comeliness of an action as well as of a word and thereby to direct himself both in praise and persuasion or any other point that pertains to the orator's art...And this decency of man's behavior as well as of his speech must also be deemed by discretion, in which regard the thing that may well become one man to do may not become another, and that which is seemly to be done in this place is not so seemly in that, and at such a time decent, but at another time indecent, and in such a case and for such a purpose, and to this and that end, and by this and that event, perusing all the circumstances with like consideration. Therefore, we say that it might become King Alexander to give a hundred talents to Anaxagoras the philosopher, but not for a beggarly philosopher to accept so great a gift, for such a Prince could not be so impoverished by that expense, but the philosopher was by it excessively to be enriched, so was the King's action proportionable to his estate and therefore decent, the philosophers, disproportionable both to his profession and calling and therefore indecent.³⁴¹

Echoing Cicero's language of place, Puttenham forces us to think about the meaning of an action beyond whether it is successful or unsuccessful, right or wrong. He adds to our language of thinking about actions the qualifiers "comely, seemly, or decent." These qualifiers reveal a dimension of action not usually contained in our subjective or ethical philosophies. They suggest other frames within which to think about actions: time, place, circumstance, ripeness, etc. His example of King Alexander and the poor philosopher reveals the complex way the ethical dimensions of an action unfold themselves, as well as the intricacies of parsing "the decency of man's behavior". Time, place purpose, ends, events, are all the circumstances which must be considered when judging the "decency" of a man's actions. And, according to Puttenham, they

³⁴¹ George Puttenham, *The Art of English Poesy: A Critical Edition*, eds. Frank Whigham and Wayne A. Rebhorn (Ithaca: Cornell University Press, 2007): 360-361.

must be considered equally, “perusing all the circumstances with like consideration.”

Fundamentally, what this kind of thinking requires is a much more robust understanding of an action and its moral dimensions. The truth of an action in this view cannot be reduced to whether it realizes its intended effect, that it works. That an action fulfills an end is only one of many ways in which to think about the efficacy of an action, its meaning and truth, and by no means the highest and final criterion. And it is precisely this kind of dispersed, occasional thinking about action that Cicero, Puttenham, and Shakespeare in his *Tempest* are attempting to work out.

To put this more concretely, time reveals and makes possible certain kinds of actions and forecloses others. Responding adequately to a situation means understanding what kinds of actions time has disclosed, and as I have been suggesting, these are the “boundaries” to which Cicero, Puttenham, and Shakespeare are referring in their thinking about actions. Douglas Peterson argues that there is a “twofold conception of time that is new in the Renaissance” that motivates, for instance, Shakespeare’s metaphorical descriptions of time as “Revealer, Destroyer, Renewer, and Occasion.”³⁴² Following John Fox—not the martyrologist—in his *Time and the End of Time* (1676), Peterson calls these “time as duration and time as occasion.”³⁴³ Fox writes,

There is a space of time, and there is the opportunity of time. *Tempus longum* and *tempus commodum*: Time and opportunity differ, time is the duration or succession of so many minutes, hours, days or years one after the other, from the beginning of a man’s life, to the end thereof... Opportunity is the time apted and fitted in order to this or that work of business *viz.* a meeting of time and means together, to effect the end. This is called the season or tempestivity of time, when time, tide, and wind meet and clasp together.³⁴⁴

The difference between the two understandings of time, is that the first, time as duration, is simply the span of time in which an action occurs. This is the time of a timeline, measuring, for

³⁴² Douglas L. Peterson, *Time Tide and Tempest: A Study of Shakespeare’s Romances* (San Marino: The Huntington Library, 1973): 18.

³⁴³ Ibid.

³⁴⁴ Qtd. in Peterson, 18.

instance, the time between a person's birth and death, or the length of a race from start to finish. Time as occasion, however, refers to the time that has been fit for the effecting of a specific purpose, the moment within which the conditions are ripe for something specific to happen. This is the kind of time which even cultural historians attempt to pursue when they take account of the conditions, for instance, that gave rise to the Renaissance, the new science, or even to a person of 'genius.' The question is, what is it or was it that made this event, this insight, or this person possible? Why did it not or could it not have happened at another time?

Though referring to it as an "accident most strange," Prospero is at least mildly concerned, in this question, with time as opportunity at the beginning of the play. In part because he now understands time as opportunity, and he sees how opportunity calls him to act to restore himself to his dukedom. It is essential that Prospero not return to Milan unaltered, but that he gains some essential insight, and undergoes a change of character that will prevent the same mistakes from happening again. He relates to Miranda, his "dear lady", the "accident most strange" that has brought the Neapolitan court to the island,

...bountiful fortune
 (Now, my dear lady) hath mine enemies
 Brought to this shore; and by my prescience
 I find my zenith doth depend upon
 A most auspicious star, whose influence
 If now I court not, but omit, my fortunes
 Will ever after droop. (1.2.178-184)

In the intervening years between his deposal and this moment, Prospero has developed an understanding of *kairos*, timeliness, and occasion. He recognizes and now accepts the hand of "bountiful fortune," his now "dear lady" and moves quickly to take advantage of the chances he's been offered. There may be a pun on the word "court" in this passage. In courting bountiful fortune, Prospero is now doing what he failed to do so many years before, and that is to go to

court, to actively take part in the shaping of his dukedom. But in order do to that, he needed first to recognize and acknowledge “bountiful fortune,” a figure here for occasion.³⁴⁵

How and why Prospero develops an understanding of *kairos* is not explicitly explored in the play. Without a doubt, this development is a reaction to his deposal and exile to the island with just his books and his daughter. We may speculate, perhaps, that as Prospero found himself becoming his daughter’s lone tutor on the island, he grew more aware of the role that opportunity and time can play in a life. While perhaps coincidental, Prospero’s narrative about how he and Miranda came to reside on the island, and what happened in the intervening years may draw out this connection. After telling Miranda that Gonzalo had furnished Prospero with some books from his library Prospero declares,

Now I arise.
Sit still and hear the last of our sea-sorrow.
Here in this island we arrived, and here
Have I, thy schoolmaster, made thee more profit
Than any other princes can that have more time
For vainer hours, and tutors not so careful. (1.2.169-174)

As the editors of the Arden edition note, “Now I arise” could mean simply that Prospero stands up, but more likely it means that he is taking account of his rising fortunes.³⁴⁶ He follows this declaration with a quick and somewhat out of place discussion of Miranda’s schooling. This discussion is unique because it clearly places Prospero and Miranda within a humanist tradition of tutoring and guidebooks written for princes. Rather Prospero, through his education of Miranda, has gained an understanding of time and timeliness. These lines are in fact a bit

³⁴⁵ Occasion and Fortune are identified with each other in at least some of the humanist emblems from the 16th and 17th centuries. See Wittkower, “Chance”, pages 316-321.

³⁴⁶ See note to line 169, “an implied SD [stage direction], indicating that Prospero gets up from a sitting position, probably to retrieve his magic robe, while Miranda remains seated...But as Ard² (20) and Oxf¹ (101) point out, the words may also refer to Prospero’s fortunes which, after plummeting twelve years earlier in Milan, are now about to rise” (161).

riddling. In the absence of society and a dukedom to govern, one might imagine that Prospero and Miranda in fact have more time for leisure and vainer hours than other princes. After all, Prospero and Miranda are not Robinson Crusoe on this island. They have the resources of Prospero's magic and two servants—Ariel and Caliban—who do the heavy lifting for them. Because they don't need to build bread ovens from scratch, we might inquire why they have less leisure time than a prince. This moment may indicate Prospero's realization that the experience of time is transformed by other concerns, namely the duties of educating his daughter and of preparing to bring justice to his deponents. Prospero himself no longer has the leisure time he had in Milan because he finally realizes that his time must be directed elsewhere, that his concern for his daughter, her education, and her ability to act in the world require his close attention and cultivation. Instead of closing himself off to the world, and locking himself away with his books, Prospero is required to spend his time and energy elsewhere, on his daughter. His time is bound and constrained by his concern for his daughter. This is the fundamental insight; his time is not opportunity to do whatever he wants, but an occasion to do what he is called to do, to be a father and a duke. While perhaps in terms of pure hours, Prospero and Miranda have more time at their disposal, the responsibility of making up for the time lost to Prospero's negligence radically alters their experience of time. Their situation has fundamentally altered Prospero's understanding of time, and how duty and responsibility shape it. Care and concern—both for his daughter and his neglected dukedom—are linked with timeliness, an understanding of what opportunity affords us in any given moment and situation. In this compressed moment, we begin to see how care reshaped Prospero's understanding of temporality, and how he came to understand and appreciate *kairos*, and to court fortune. In training his daughter to become a

prince, Prospero has learned how to be one himself, thus how to grasp and to take advantage of an occasion.

Becoming a prince in this way requires Prospero to develop much more capacious ways of thinking about his circumstances, about his situation. In the proceeding discussion, I have called this having a sense of boundedness or even occasional thinking. What Prospero learns in this is that time is not necessarily *his* time, that he must learn how to meet the occasion. His time is bounded by responsibility, by care and concern for his daughter's future, and for the future of his dukedom. Why does this discussion of occasion matter in a chapter that is ostensibly about theories of knowledge in the Renaissance? As Spiller elegantly shows us, we have recognized in modern theories of knowledge—and that means the theories of knowledge that give rise to the scientific revolution—a will to mastery, a will to power. The links between poetry and science in the period have often been based on the perception that they share this will to power, that poetry, through self-fashioning for instance, is a form of mastery of the political, social, and cultural realms, whereas science is the mastery of the physical and metaphysical realms. In the 16th and 17th centuries, all knowledge, activity, and experience can be reduced, in this view, to exercises of power. The question of this dissertation—alluded to in the Gadamer citation at the start of this chapter—has been: what—if any—existence does poetry have outside of the will to power? This is a question, I think, that was alive for Renaissance thinkers in England and on the continent, and one that Shakespeare seems to be asking in *The Tempest*. *The Tempest* is, I believe, his answer. What poetry gives us outside of the play of power is time. In attending to the complex world that gives rise to any moment, poetry preserves an understanding of the manifold relations of human existence, an understanding that runs explicitly counter to the modern scientific world view. It is an understanding that thinks through the past, present, and future of

any given moment. Poetry does this by opening a world in which the whole of the temporal structure comes into play. Heidegger's essay on "Die Frage nach der Technik" ("The Questioning Concerning Technology"), though not explicitly about the Renaissance or poetry, contains the clearest modern theoretical statement of the problem. The distinction between the "occasioning" of pre-modern *techné* and the "standing-reserve" of modern technology reveals precisely the temporal dimensions at play in both the scientific and poetic understandings of the world.

Heidegger acknowledges earlier than Spiller and others the strong relationship between poetry and science when he cites the fact that in ancient Greek thinking, poetry and technology—the essence, for Heidegger, of modern scientific thinking—were both kinds of bringing-into-being (*Her-vor-bringen*). He writes, "First, *techné* is not just the name for the making and doing of craftwork, but rather also for the higher art and beautiful arts. *Techné* belongs to bringing-forth, to *poíesis*; it is something poetic."³⁴⁷ Here we see Heidegger moving beyond the parallels that Spiller draws between poetry and science. Rather than just being things made, *facta*, technology and poetry are both ways of bringing something into being. That is, *techné* is finally grounded in the poetic; it is not a means of achieving a desired effect, but of bringing about a being or a situation that could not have otherwise come into existence. The difference between making and bringing-into-being is subtle but important. For Heidegger, the latter is based in recognition in the broadest sense. Herein lies also another overlap between poetry, technology, and science. He continues,

The word *techné* is from early on until the time of Plato joined with the word *episteme*. Both words are names for knowing in the broadest sense. They mean

³⁴⁷ "Einmal ist *τέκνη* nicht nur der Name für das handwerkliche Tun und Können, sondern auch für die hohe Kunst und die schönen Künste. Die *τέκνη* gehört zum *Her-vor-bringen*, zur *ποίησις*; sie ist etwas Poietisches." Heidegger, "Technik", 14. Translation mine.

knowing one's way around something, to know something very well. Knowing provides an opening. As an opening it is a revealing. Aristotle distinguished in a special consideration... *ἐπιστήμη* and *τεχνή* namely with regard to what and how they reveal. *Τεχνή* is a manner of *ἀλθευεῖν*. It reveals such things that cannot bring themselves into being and which do not yet exist, which could therefore appear and turn out one way and then another. Whoever builds a house or a ship or forges a chalice reveals the thing-to-be-brought-into-being in respect to the four ways of occasioning. This revealing gathers in advance the appearance and the stuff of the ship and the house onto the envisioned finished thing and determines from there the manner of the making. The determinative of *τεχνή* is therefore in no way in making and plying, not in the application of means, but in the revealing. As this, and not in the making is *τεχνή*, a bring-into-being.³⁴⁸

What distinguishes *τεχνή* from *ἐπιστήμη* is the mode of revealing of *τεχνή*. *Τεχνή* brings into being something that does not already exist, and something that cannot bring itself into existence—a rose, for instance, can bring itself into existence through seeding. Unlike the knowing of *ἐπιστήμη*, there is also nothing *necessary* about the making of *τεχνή*, as it can “appear and turn out one way and then another.” Epistemic knowledge is of a precise and essential nature; to be knowledge, it must know everything necessary. It cannot change. *Τεχνή* on the other hand can change and go in different directions in its revealing.

This, of course, sounds like making in the sense that we usually understand it, but Heidegger qualifies this usual sense to distinguish it from “making and plying.” He says that *τεχνή* reveals “in respect to the four ways of occasioning.” For Heidegger, and this is key,

³⁴⁸ “Das Wort *τέκνη* geht von früh an bis in die Zeit Platons mit dem Wort *ἐπιστήμη* zusammen. Beide Worte sind Namen für das Erkennen im weitesten Sinne. Sie meinen das Sichauskennen in etwas, das Sichverstehen auf etwas. Das Erkennen gibt Aufschluß. Als aufschließendes ist es ein Entbergen. Aristoteles unterscheidet in einer besonderen Betrachtung...die *ἐπιστήμη* und die *τέκνη*, und zwar im Hinblick darauf, was sie und wie sie entbergen. Die *τέκνη* ist eine Weise des *ἀλθευεῖν*. Sie entbirgt solches, was sich nicht selber her-vor-bringt und noch nicht vorliegt, was deshalb bald so, bald anders aussehen und ausfallen kann. Wer ein Haus oder ein Schiff baut oder eine Opferschale schmiedet, entbirgt das Her-vor-zu-bringende nach den Hinsichten der vier Weisen der Veranlassung. Dieses Entbergen versammelt im voraus das Aussehen und den Stoff von Schiff und Haus auf das vollendet erschaute fertige Ding und bestimmt von da her die Art der Verfertigung. Das Entscheidende der *τέκνη* liegt somit keineswegs im Machen und Hantieren, nicht im Verwenden von Mitteln, sondern in dem genannten Entbergen. Als dieses, nicht aber als Verfertigen, ist die *τέκνη* ein Her-vor-bringen.” Ibid.

techné doesn't just make something for the sake of making something or because a maker has decided to bring it into existence. Rather, techné responds to and is unfolded within the quadripartite structure of the occasion. Making simultaneously gives rise to and responds to an occasion. Heidegger reinterprets Aristotle's four causes from the *Metaphysics* not as a *means* by which something is brought into being, that is, a way to achieve certain effects; rather within the sphere of ancient Greek thinking, the word which the Romans translate as *causa*, αἰτία, can be better understood to mean co-responsible [*mitschuldig*].³⁴⁹ Another way of putting this is that techné, through the four causes, preserves a sense of how things are mutually constituted. Discussing this problem elsewhere in the essay, Heidegger writes, "This revealing gathers in advance the appearance and the stuff of the ship and the house onto the envisioned finished thing and determines from there the manner of the making." This covers three of the four Aristotelian causes: formal, material, and efficient. The revealing of techné brings the appearance, the material, and the manner of making into relationship to one another before the thing is made, and determines from there the coming-into-being of the thing being made. The choice of material and the final appearance help to determine *how* the thing will be made; the available means of making (the skill involved, the availability of tools, etc.) combined with the material will determine the final look of the thing being made, etc. And although he does not mention it in this short passage, Heidegger recognizes that the final cause, the end, for which the thing is being made will be affected by all of the occasions, the causes, as well. The kind of ceremony, the

³⁴⁹ Causa, casus, gehört zum Zeitwort cadere, fallen, und bedeutet dasjenige, was bewirkt, daß etwas im Erfolg so oder so ausfällt. Die Lehre von den vier Ursachen geht auf Aristoteles zurück. Im Bereich des griechischen Denkens und für dieses hat jedoch alles, was die nachkommenden Zeitalter bei den Griechen unter der Vorstellung und dem Titel »Kausalität« suchen, schlechthin mit dem Wirken und Bewirken zu tun. Was wir unter Ursache, die Römer causa nennen, heißt bei den Griechen αἰτία, das, was ein anderes verschuldet. Die vier Ursachen sind die unter sich zusammengehörigen Weisen des Verschuldens. Ibid.

manner of sacrifice, the way of the unfolding of the gods in that moment will inevitably be affected mutually by these considerations.

In this passage, Heidegger also gives us another clue as to how *techné* differs from “making and playing,” that is, the usual way in which human making is construed. In emphasizing the four ways of occasioning in bringing-into-being (*Her-vor-bringen*), Heidegger wants to remind us that it is not men who are making something for a specific, given situation—that is bringing about a desired effect—but that through the making itself, the makers, the situation, and the thing to be made come into existence simultaneously. This is perhaps the most important, if overlooked, aspect of Prospero’s power in *The Tempest*. It is not Prospero who, through the force of his own will, gathers together the power to create a moment, rather it is through the accident of time, the falling out of a particular opportunity, that Prospero first becomes able to appear as a man capable of the kind of making, of the kinds of decisions that he finally undertakes in *The Tempest*. He emphasizes that he is not responsible for his enemies coming so near to the island when he says,

By accident most strange, bountiful fortune
 (Now, my dear lady) hath mine enemies
 Brought to this shore; and by my prescience
 I find my zenith doth depend upon
 A most auspicious star, whose influence
 If now I court not, but omit, my fortunes
 Will ever after droop. (1.2.178-184)

An “accident most strange,” mostly beyond his understanding, is what allows Prospero to ascend again to his dukedom. He acknowledges here that it is only in concert with good fortune that he can achieve this change. He has been given the occasion to act, but he is not the sole originator of that possibility. If it weren’t for the “accident most strange,” Prospero would not be Prospero as we know him. Prospero is not the result of his willing himself into being as Prospero: rather,

he comes into being through the confluence of his actions, the actions of others, as well as the occasions that are given to him to act upon. He acknowledges this here when he decides to act. These things are mutually constitutive. Heidegger speaks in the previous passage not about the maker who brings things into being, but rather about the “manner of making.” Here he refers to the efficient cause, but he does so by removing any strong sense of the *person* who does the making, and emphasizes rather the actions and capabilities that allow this making to happen. As I will show, this is an important move for Heidegger in attempting to distinguish techné from modern technology, but again this way of speaking about techné helps to remove the sense that there is a person, a subject, constituted before the making, who makes the making happen. For Heidegger, the smith is revealed as smith in the making just as much as the chalice is revealed as chalice. These are mutually determinative, mutually constitutive occasions and not the consequences of an actor. We are not speaking here of agents who can will something into being through their actions; instead, we are thinking about a set of mutually creative “occasions,” who give rise to each other and to a whole through their interactions.

There are two main, interrelated problems for Heidegger in the modern scientific worldview. The first is that it strips everything of its situation, and thus, secondly, makes everything subject to human will. Although in his essay on technology, Heidegger does not define scientific knowledge, he gestures at it when he discusses the differences between techné and episteme, a distinction familiar from Aristotle’s *Nicomachean Ethics*. There Aristotle writes,

Now what *scientific knowledge* [episteme] is, if we are to speak and not follow mere similarities, is plain from what follows. We all suppose that what we know is not even capable of being otherwise; of things capable of being otherwise we do not know, when they have passed outside our observation, whether they exist or not. Therefore the object of scientific knowledge is of necessity. Therefore it is

eternal: for things that are of necessity in the unqualified sense are all eternal; and things that are eternal are ungeneratable and imperishable.³⁵⁰

Knowledge, true knowledge, knows what is eternal and necessary, thus the underlying and never-changing structures of existence. While some, like Spiller, have argued that science in the Renaissance is focused on the particular and is thus interested in the local and changeable, as I have demonstrated in my Gilbert chapter, experiment is indeed performed in service to fixed, unchanging truths. Heidegger agrees, arguing that,

if the projected area [of modern science] is to become objective, then the entire diversity of its layers and interweavings are to be brought to the encounter. Thus the process must have an eye open for the changeableness of the things to be encountered. Only within the horizon of the always-other of the alteration does the fullness of the particular, of the actualities, show itself. But the actualities must become objective. The process, then, must be able to represent changeableness in its changeableness, to bring it to a stop, and nevertheless let movement be a movement. The standing of the facts and the constancy of their change as such is the rule. The constancy of the change in the necessity of their development is the law.³⁵¹

Experiment and the mathematical projection are ways of accounting for change, but they do so to reduce that change to a regularity. In doing so, the object is stripped of its context, the interwoven fabric of its existence, and made to “stand still” as an established fact or under the aegis of a particular theory.

For Heidegger, the consequence of stripping a phenomenon of its situation is that it is then subject to human will. Heidegger uses the example of modern energy production. Modern

³⁵⁰ Aristotle, “Ethics”, 1024-1025.

³⁵¹ “Soll der entworfene Bezirk gegenständlich werden, dann gilt es, ihn in der ganzen Mannigfaltigkeit seiner Schichten und Verflechtungen zur Begegnung zu bringen. Deshalb muß das Vorgehen den Blick für die Wandelbarkeit des Begegnenden frei haben. Nur im Geischtkreis des Immer-Andern der Veränderung zeigt sich die Fülle des Besonderen, der Tatsachen. Die Tatsachen sollen aber gegenständlich werden. Das Vorgehen muß daher das Veränderliche in seiner Veränderung vorstellen, zum Stehen bringen und gleichwohl die Bewegung eine Bewegung sein lassen. Das Stehende der Tatsachen und die Beständigkeit ihres Wechsels als solchen ist die Regel. Das Beständige der Veränderung in der Notwendigkeit ihres Verlaufs ist das Gesetz.” Heidegger, “Zeit”, 8.

energy production lifts energy out of its situation and makes it readily available regardless of its history or situation. When wind energy from a mill can be stored, then it no longer matters in which season the grain was milled or in which region—highlands, lowlands, etc. The situatedness of the power production—in the Rhine during a rainy season or a drought—simply no longer makes a difference. This de-situatedness is the consequence of the essence of modern technology, an essence which Heidegger calls enframing.³⁵² He writes, “we now call this challenging claim, which gathers mankind there, the self-disclosing as *standing-reserve to be ordered* – enframing.”³⁵³ In this passage, Heidegger is playing on language used to describe stock-piling and ordering. Standing-reserve translates “Bestand” which can also be translated into English as “stock” or “inventory.” Translating this as “standing-reserve” as William Lovitt does, highlights the sense that the stock is waiting to be implemented, that it will be implemented, and that the when, where, and how of its implementation does not matter. It is standing and waiting with no function or direction. This is the work of enframing, which transforms techné into technology by stripping the former of its situation, both the whence and whither of its creation. Enframing doesn’t just ignore situation and context, it destroys them altogether. A chalice is no longer painstakingly hand made to create a ritual that reveals and strengthens the bounds of human community; rather, it is mass produced by robots and machines, and it is cheaply available for church services as well as for frat hazing. In transforming things into standing-reserve, human existence is similarly enframed. The consequence is that we no longer understand our existence to have a temporality, that is we no longer see our being as responding to or persisting within a situation or an occasion. Heidegger

³⁵² “Enframing” is William Lovitt’s translation of *Ge-stell* which I have retained here.

³⁵³ “Wir nennen jetzt jenen herausfordernden Anspruch, der den Menschen dahin versammelt, das Sichentbergende als Bestand zu bestellen – das *Ge-stell*” Heidegger, “Technik”, 20. Italics mine.

argues, “as soon as the unconcealed approaches mankind no longer as an object but solely as something standing-reserve, and man within the objectlessness is now only the orderer – then man approaches the out edge of a collapse toward which he too can be taken to be standing-reserve.”³⁵⁴ In becoming the orderer, man also becomes orderable, regardless of his or her situation, occasion, context, being, etc.

That scientific and technological thinking would change man into the “orderer” is a consequence that Sir Francis Bacon both anticipated and embraced. In the *Novum Organum*, Bacon writes,

It is the task and purpose of human power to generate and superinduce a new nature or new natures on a given body. It is the task and purpose of human knowledge to discover the form of a given nature, or its true specific difference, or nature-engendering nature...And subordinate to these primary tasks there are two others...the transformation of one material substance into another, within the bounds of *possibility*...[and] the discovery, in every instance...the *latent processes* operating continuously from the manifest efficient and the manifest material [causes] (*sic*) to the resulting form...³⁵⁵

Here, Bacon works his way up from the changeable existence of a thing, its situation and interweavings, to its causative nature. But instead of ending with knowledge about the thing, its form, and causes, Bacon tells us what he thinks the real goal of science is: giving a thing “a new nature.” Manipulating nature beyond its given form is the ultimate dream of the technological-scientific world view, a dream which has deeply penetrated modern life, not just in energy production and management, but modern manufacturing, 3D printing, and eventually even stem

³⁵⁴ “Sobald das Unverborgene nicht einmal mehr als Gegenstand, sondern ausschließlich als Bestand den Menschen angeht und der Mensch innerhalb des Gegenstandlosen nur noch der Besteller des Bestandes ist, – geht der Mensch am äußersten Rand des Absturzes, dorthin nämlich, wo er selber nur noch als Bestand genommen werden soll”) Heidegger, “Technik”, 27-28.

³⁵⁵ Francis Bacon, *Novum Organum and Other Parts of The Great Instauration*, trans. and ed. Peter Urbach and John Gibson (Chicago: Open Court, 1998): 133.

cell manipulation. And, as Bacon realizes, pursuing this goal “transforms our humanity.”³⁵⁶ The *Novum Organum*, along with much of Bacon’s project, is dedicated to reforming the whole of human society and human senses to allow it to take advantage of scientific knowledge. As Paul Feyerabend notes, “Thus, when Bacon speaks of the ‘unprejudiced senses’ he does not mean sense-data, or immediate impressions, but the reactions of a sense organ *that has been rebuilt* to mirror nature in the right way. Research demands *that the entire human be rebuilt*.”³⁵⁷ Bacon’s goal is to recreate the world such that all human endeavor can be directed toward ordering discovering and reordering nature. Bacon’s work confirms Heidegger’s concern that the scientific-technological impulse will allow man to recreate the world and man itself in its own image.

The kind of advances in knowledge and technology that Bacon anticipated would not begin to exist for another hundred years, but our own moment is replete with examples of how human will can reconceive of nature. Technologies like the 3D printer can allow us to not only remake our physical world but the entire social order.³⁵⁸ In this scenario not only does everything

³⁵⁶ For a more thorough-going discussion of this, see Madeline M. Muntersbjorn, “Francis Bacon’s Philosophy of Science: *Machina intellectus* and *Forma indita*,” *Philosophy of Science* 70.5 (2003): 1137-1148.

³⁵⁷ Qtd. in Muntersbjorn “Machina”, 1141.

³⁵⁸ With the right materials, this remarkable technology allows us to produce nearly everything, from fully drivable cars, to food, to organs. With a 3D printer, all one needs are technically specific plans or the ability to create them, the correct printer, and the right “ink,” and one can create anything. In the world of science fiction, one recognizable analog is the replicator from the *Star Trek* universe which, among other things, can create in seconds fresh, piping hot meals. Designers and programmers working with the 3D printer have even developed projects to make these printers self-replicable, meaning that should you need a different kind of 3D printer for a specific project, then you can just print it. The consequences of such a technology are astounding, and without a doubt, 3D printing is and will continue to be one of the most important technologies of the 21st century. Coupled with advances in energy production and storage, propulsion, micro-engineering, and design, the 3D printer will be indispensable to manned and, with advances in robotics, unmanned exploration of the solar system and beyond. With changes in our abilities to engineer human tissue, the 3D printer will inevitably improve life for

become subject to human will, human beings themselves become subject to a heedless and boundless human will. As I mentioned at the beginning of this chapter, Heidegger believes that humanism is just another expression of this triumph of the will which sees and understands everything in terms of willfulness. Elizabeth Spiller argues,

Prospero had understood knowledge as its own realm, apart from the world; once he finds himself truly outside that world and indeed only when he must in turn dispossess someone else to regain a place even at the margins of the world, he learns the lesson that knowledge must be used if it is to exist because knowledge cannot be abstracted from the human world. The knowledge of nature is primarily valuable as it provides a power over man.³⁵⁹

In this interpretation of the play, poetic knowledge becomes a tool of human will-to-power. But as I said earlier, the occasion for the play is an “accident most strange,” something that makes human action possible not the other way around. *The Tempest*, then, gives us a world that isn’t the result of Prospero’s stage management, the effect of his will, or his natural or metaphysical knowledge. Instead, we find a Prospero who, until a moment, doesn’t seem to have much hope of changing anything. The “accident,” something which befalls Prospero rather than an effect that

amputees, those needing skin grafts, or other organ and limb transplant patients. Some even suggest that the 3D printer could put an end to material poverty. Not only would having cheap access to a 3D printer mean being able to produce your material needs on demand, it could also transform low-income or poverty-stricken homes and communities into producers of material wealth. Of course, at the same time, what this does is collapse the economy as we know it. An economy based on the exchange of money for goods produces jobs, material wealth, stability and security for those who have access to raw materials, know how to transform those raw materials, and who can transport and sell them. Along the way, structures for this economy like roads, pension plans, health care, social security, unions, and labor and trade laws are established to support that economy and the people within it. By eliminating the first three levels of this economy, everyone in the economy becomes an independent producer and therefore an independent contractor. This is akin to the current Uber and AirBnB economies in which everyone is an independent service contractor. In this kind of economy, not only do we order up the services or goods regardless of their origin and history of production—the kind of ahistorical capitalist thinking that Marx calls commodity fetishism—but because our abilities, our location, our histories are equally disregarded, we become standing-reserve, ready to provide whatever service is required of us at the moment.

³⁵⁹ Spiller, “Shakespeare”, 35.

he produces, forces him to decide, to act when action wasn't otherwise possible. Rather than showing to us man's power over the world through natural philosophy, this moment suggests that Shakespeare sees this as being a more nuanced interaction. Power is occasioned, and in that occasioning, it is directed: it exists meaningfully within a situation, and only makes sense within the confines of that situation. Outside of that, it is destructive and dangerous.

V. "To minister occasion": Occasional Thinking and Negotiating Limitations

Using Heidegger's thinking about science and technology, I have tried to understand what is at stake in that world picture. For Heidegger, and, as we have seen in the brief example from Bacon's *Novum Organum*, the modern scientific world picture does two things: 1) it strips the world of its situation, and 2) it makes everything subject to human will. If this is the project of modern science, then what, if any, resistance to these ideas are offered in the Renaissance? I suggested earlier that humanism provides a counter discourse, at least in part, to the rise of modern science. The seeds of that are apparent in Heidegger's thinking about temporality. In the rest of this chapter, I would like to show how Shakespeare takes up the notion of the occasion to present the world of *The Tempest* as a struggle between two competing understandings of temporality: the scientific, on the one hand, stripped of situation and thus of anything other than linear temporality, and the humanistic, on the other, which thinks of temporality in terms of obligations, networks, and duty. In this way, I would like to reject the notion that the play presents Prospero as a scientific magus who gains technological control over his island and his world, and instead ask about how Prospero finally submits in important ways to the duties and responsibilities of governing.

Gonzalo and Antonio represent the two fundamentally different ways of thinking about temporality outlined above. Obviously, Shakespeare is not thinking about this in terms of Heidegger's distinction between *techné* and technology; however, another related set of distinctions, between occasion and opportunity, may have motivated the temporal thinking in the play. Gonzalo, minister to the king and to Prospero, the former duke of Milan, takes careful consideration of what responses and possibilities are occasioned by the moment, whereas Antonio is a pure opportunist, whose desire for power and self-promotion culminates in a complete disregard for people and his responsibilities. Douglas Peterson argues,

But there is [...] a difference between occasion and opportunity—a difference which Shakespeare consistently observes. How a character construes *tempus commodum*—whether he construes it as occasion or as opportunity—indicates whether he believes in a shaping Providence or in a random universe presided over by chance. To recognize Occasion as the Daughter of Time is to recognize time's orderly progression as a manifestation of cosmic order and purpose. In this view, the right use of occasion is a moral obligation. On the other hand, to view occasion as opportunity and a gift of fortune that is to be seized and used to one's own selfish ends is to assume a universe of random chance.³⁶⁰

One who believes in occasion believes that the world has a shape, and everything in it has its place. Acting with the time, according to occasion, means preserving an understanding of the world as ordered and meaningful. One who believes that time presents only opportunities, believes also that order is accidental and finally meaningless, and can be reordered as one sees fit. It is a universe of self-assertion, of willfulness, and the revaluation of all values.³⁶¹ If allowed

³⁶⁰ Peterson, *Time*, 37.

³⁶¹ The citation of Nietzsche's definition of nihilism are not inconsequential here. He writes, "What does nihilism mean? *That the highest values devalue themselves*. The aim is lacking; 'why?' finds no answer." Nihilism is one of the consequences of this kind of thinking, and we find its looming presence throughout the period. Of course, it is not yet understood as such, and will require years of modification before the nihilism that underpins Nietzsche's historical and 'genealogical' insights can come into existence—seeing nihilism as a force for productive investigation was, I believe, beyond the capabilities of the Renaissance. Nevertheless, this is the

to pursue his desires to their conclusion, Antonio's actions would result in an almost complete upheaval of social and ethical relations. Gonzalo, on the other hand, acts to preserve those relations, and thus cultivates a sense of truth that is fundamentally different from the will to power. In the tension between occasion and opportunity represented by Gonzalo and Antonio, Prospero learns that he does not need to choose between the active life or the contemplative; rather, in abjuring his books and his magic, and returning to Milan as duke, Prospero gains a sense for the occasion. By the end of the play, Prospero has discovered how to act in accordance with the occasion, and to understand what the occasion calls him to do beyond his own desire. Furthermore, he learns, as we can see in his pardoning of his brother, that there are some situations which we can only confront with humility, as our will—in this case, a desire perhaps for punishment or even contrition on Antonio's part—is powerless to do anything.

Gonzalo's famous musings about his commonwealth arise seemingly out of nowhere, and thus appear to contradict his concern for speaking with the time. After reprimanding Sebastian for the same thing, Gonzalo remarks to him,

GONZALO: It is foul weather in us all, good sir,

When you are cloudy

SEBASTIAN: Foul weather?

ANTONIO: Very foul.

GONZALO: Had I plantation of this isle, my lord – (2.1.142-144)

These lines suggest that Gonzalo may have anticipated this apparent contradiction. When he says that Sebastian's bad mood produces "foul weather" in them all, he's suggesting that untimeliness is contagious. Not only does it ruin the general mood, but much like the tempest at the beginning of the play, Sebastian's own bad weather, his bad timing, might produce bad timing in everyone else. In Latin, *tempestas* can mean both season and time as well as

mindset that grows, as I will suggest below, from the actions of someone like Alonso. Nietzsche, *Will*, 9.

weather.³⁶² In this way, Sebastian's untimeliness is catching. It appears, though, that none of his company catches on to Gonzalo's pun, and so he continues with his musings about the commonwealth. He says,

I'th' commonwealth I would by contraries
 Execute all things, for no kind of traffic
 Would I admit; no name of magistrate;
 Letter should not be known; riches, poverty
 And use of service, none; contract, succession,
 Bourn, bound of land, tilth, vineyard – none;
 No use of metal, corn, or wine or oil;
 No occupation, all men idle, all;
 And women, too, but innocent and pure;
 No sovereignty –
 [...]
 All things in common nature should produce
 Without sweat or endeavour; treason, felony,
 Sword, pike, knife, gun, or need of any engine
 Would I not have; but nature should bring forth
 Of its own kind all foison, all abundance,
 To feed my innocent people. (2.1.148-165)

Although critics have noted that Gonzalo's speech echoes Montaigne's own utopian musings in the essay "Of Cannibals," many find it to be nothing more than a momentary distraction from the seriousness of their situation. Douglas L. Peterson suggests,

By imagining himself king of a commonwealth in which there would be 'no sovereignty' [Gonzalo] gives the complaining nobles something to ridicule and thus succeeds, at least for a few minutes, in getting them to forget the troubled present. He also succeeds, by offering himself as a scapegoat, in distracting the attention of Antonio and Sebastian away from Alonso, on whom they have bitterly turned to blame for their present miseries.³⁶³

³⁶² Wittkower notes, for instance, that in the Kairos chapter of his *Adagia*, "Even Erasmus still translates Kairos as 'Tempus'" (313). Sokol, in arguing that opportunity also has a positive connotation in the Renaissance, says, "But in *The Winter's Tale* this same related word 'opportune' refers to something that averts harm when Florizel has a ship nearby 'most opportune' for escape with Perdita (IV,iv,501). In risking their destinies Florizel and Perdita show their faith in *kairos* (or in Latin *tempestivitas*)" (37).

³⁶³ Peterson, *Time*, 239.

Peterson is generally correct here. Yes, Gonzalo does offer himself up as a scapegoat by giving the other nobles something to ridicule and Alonso time to recover from their bitterness. But something more fundamental is at stake here, something to which Gonzalo's speech only hints.

Far from doddering and incompetent, Gonzalo's speech draws attention to the complex nature of the commonwealth: the various roles men execute, their relationships to each other, and their relationship to the world around them. Gonzalo's desire to rule "by contraries," however, interrupts these relationships, destroying them altogether. As Sebastian and Alonso, interrupting Gonzalo, point out, this would render sovereignty meaningless. There's no need for a king in a realm that manages itself. In erasing these relationships, Gonzalo has nullified kingship. It's an absurd proposition from their point of view, a fact which is unlikely to be lost on Gonzalo.

Although he is treated here as if he's dimwitted, Gonzalo has already forcefully reminded us of the importance of saying the appropriate things at the appropriate time. We might view the speech, then, as a subtle comment on the comportment of Antonio and Sebastian, who through their own negligence of their duties and their positions do more to threaten the stability of the kingdom than Gonzalo's meaningless words. As they point out, the logic of such a commonwealth would render everyone "whores and knaves" (2.1.167). That is, it would destroy the entire social and ethical fabric of the commonwealth, meaning that it would no longer be a commonwealth, no longer for the common good. In a completely self-sufficient society, there would be no need of the commons, as everyone could, if they so choose, ignore everyone else. There would be no need of "sweat or endeavour," as Gonzalo says, because work would be superfluous. This renders him nothing. Here Gonzalo is ruling "by contraries." He has provided for them a mirror for their own behavior, a mirror which shows what happens when everything becomes nothing—when men become meaningless to other men, then they become meaningless

to themselves, subject to their own wills and desires. The problem is that he has overestimated his audience.

Alonso, also failing to grasp the importance of the speech, says to Gonzalo,

ALONSO: Prithee, no more.

Thou dost talk nothing to me.

GONZALO: I do well believe your highness, and did it to *minister occasion* to these gentlemen, who are of such sensible and nimble lungs that they always use to laugh at nothing.

ANTONIO: 'Twas you we laughed at.

GONZALO: Who, in this kind of merry fooling, am nothing to you, so you may continue to laugh and laugh at nothing still.

ANTONIO: What a blow was there given!

SEBASTIAN: An it had not fallen flat-long.

GONZALO: You are gentlemen of brave mettle. You would lift the moon out of her sphere, if she would continue in it five weeks without changing.

SEBASTIAN: We would so, and then go a bat-fowling. (2.1.171-185; italics mine)

Although they all admit that Gonzalo's speech was nothing, the other noblemen have a very different understanding of that nothing than Gonzalo has. For them, the speech was vain, empty, and full of contradiction, essentially meaningless. Gonzalo, on the other hand, contends that he *ministered occasion* to these gentlemen. This somewhat cryptic remark is understood to mean, as Gonzalo seems to confirm in the following lines, that he just wanted to make everyone laugh. Both the Riverside and the Arden editors gloss this line as "giving or providing opportunity", but the word has many relevant connotations here. First, the word is a not too subtle pun on Gonzalo's own position as a counselor or minister to the king. As a minister to the king, Gonzalo is attending to, ministering to, his needs. The word's etymology also plays a role here. Coming from the Latin *minus*, minister or to minister has the sense of being less than or of being a servant to someone or something. Here, then, not only is Gonzalo providing an opportunity for laughter, he is also serving something greater than himself, both the king and the occasion, the immensity of the king's grief, their own unacknowledged peril, and the sense of duty and honor

ministers owe to their king and to their place in the governmental structure. Here we can agree with Peterson's argument that,

By imagining himself king of a commonwealth in which there would be "no sovereignty" [Gonzalo] gives the complaining nobles something to ridicule and thus succeeds, at least for a few minutes, in getting them to forget the troubled present. He also succeeds, by offering himself as a scapegoat, in distracting the attention of Antonio and Sebastian away from Alonso, on whom they have bitterly turned to blame for their present miseries.³⁶⁴

By subjecting himself to ridicule, Gonzalo ministers to the king, relieving him of their barbs, and thus serves the state. He sacrifices his own standing to make it easier for the king to manage his grief, perhaps even distracting the king from his troubles as well. Although Gonzalo's commonwealth might be no more than an impossible flight of fancy, he understands far better than his compatriots the responsibilities and the selflessness often required of a governor.

Secondly, as I suggested above, Gonzalo makes himself nothing in this moment to show what happens when pure willfulness rules the day. In this way, Gonzalo isn't less because he ministers; rather he is nothing at all because there is nothing to minister to, there is no other person with whom he can have a relationship. These relationships are all destroyed, as I will suggest later, by Antonio and Sebastian's selfish ambition. In this speech, Gonzalo has hoped to show the dangers of their ambition, but because they already see him as being nothing, because they are already guided by their own faithless desire for self-promotion, they cannot hear what he is saying. In this way, Gonzalo may have missed his mark. While he argues that he is ministering occasion to them, he has forgotten to be a good orator. He fails to realize that his audience is unwilling to listen to him no matter how clever or insightful he may be.

Finally, in his retort to Sebastian and Antonio, Gonzalo also remarks that they would move the moon from its sphere if it would stop changing for five weeks. This of course is

³⁶⁴ Ibid.

impossible; the moon, as Renaissance poets are at pains to remind us, like a woman, will never stop changing. Gonzalo may be nothing, someone who makes speeches only to get a laugh, but these noblemen talk only and do not act. With this remark, Gonzalo revises the stakes of their verbal banter, and deflates their own inflated sense of their actions. Gonzalo, Antonio and Sebastian are all now nothing. But Gonzalo is a nothing in terms of his role as a minister, that is, as someone less than, as a servant to something else. In this case, Gonzalo is a minister to occasion. As a minister to occasion, Gonzalo serves time and attends to a situation, however that situation presents itself. As he shows us in this scene, a good minister knows when to play the fool in order both to relieve the aching heart of his king, as well as to deflate the rhetoric of two self-serving courtiers.

Shakespeare provides a counterpoint to Gonzalo's careful consideration of the time in Antonio and Sebastian. They too use the language of occasion but not in the sense of ministering that is so important to Gonzalo. Their sense of occasion is derived rather from its secondary meaning as opportunity. Opportunity, Peterson tells us, is "view[ing] occasion as...a gift of fortune that is to be seized and used to one's own selfish ends," and it implies "a universe of random chance" rather than one of order and purpose.³⁶⁵ When the King and Gonzalo fall asleep through the force of Ariel's enchantment, Antonio sees an opportunity for Sebastian's ascension to the crown. He says,

They fell together all, as by consent;
 They dropped, as by a thunderstroke. What might,
 Worthy Sebastian, O, what might – ? No more;
 And yet, methinks I see it in thy face
 What thou shouldst be. Th'occasion speaks thee, and
 My strong imagination sees a crown
 Dropping upon thy head. (2.1.203-209)

³⁶⁵ Peterson, *Time*, 37.

Although Antonio calls it an “occasion,” his description of the moment as a “thunderstroke,” a seemingly random event, indicates that there is more chance in this moment than providence or plan. If the universe is the result of nothing but chance occurrences, then there’s little sense in attempting to preserve, as Gonzalo does, any of the boundaries and relationships that undergird society. What follows is Antonio’s nearly successful attempt to convince Sebastian that these bonds are meaningless. Sebastian is reluctant at first, suggesting that he is “standing water” because “To ebb / Hereditary sloth instructs me” (2.1.221-223). The Arden editors gloss this line as meaning Sebastian’s “natural laziness” is holding him back.³⁶⁶ However, in accordance with the reading of occasion as a kind of boundedness that I’ve been pursuing here, we might also see in this moment a recognition that as a younger brother and servant to the king, Sebastian should protect his king, which he and Antonio have agreed to do, rather than plot to kill him.

But Antonio insists, and in doing so, he reveals a commitment to a destructive ambition, one that rather than serving occasion, would instead make time bend to serve his own wishes and desires. He continues in his attempt to sway Sebastian to murder Alonso, by arguing that Alonso and Gonzalo will be as easily forgotten as the earth that they lie upon. He says of Gonzalo, “this lord of weak remembrance – this / Who shall be of as little memory / When he is earthed” (2.1.232-234). Later, of Alonso he says, “Here lies your brother, / No better than the earth he lies upon” (2.1.281-282). In reducing the memory of Alonso and Gonzalo to mere earth, that is to nothingness, Antonio denies any bonds of fealty that may have prevented Sebastian from killing his brother. In calling Gonzalo a “lord of weak remembrance,” Antonio reinforces the notion that Gonzalo is a doddering old fool. However, the pun also suggests that Gonzalo will be little remembered when he is dead. The same, by extension, is true of the king when he is dead.

³⁶⁶ Shakespeare, *Tempest*, 199.

Antonio is here suggesting that the bonds of fealty his people owe to Alonso as king will be just as easily dissolved. In this way, the earth becomes a nothing, a no place, because it cannot bind a people together, and all obligations become meaningless. When Antonio says, “what’s past is prologue, what to come / In yours and my discharge” he is further erasing any bonds and duties that they may have owed to king and country. Those are all meaningless in the face of the act—the murder of Alonso and Sebastian’s ascension—that is to come. Time, the past, makes no claims on their will, as they are free to discharge their circumstances however they want to.

This triumph of the will over time and occasion rises to a head in Antonio’s response to Sebastian’s question, “But for your conscience” (2.1.276). Antonio has just admitted to having supplanted his brother, Prospero, and his conscience, he says, does not bother him at all:

Ay, sir, where lies that? If ‘twere a kibe
 ‘Twould put me to my slipper, but I feel not
 This deity in my bosom. Twenty consciences
 That stand ‘twixt me and Milan, candied be they
 And melt ere they molest! Here lies your brother,
 No better than the earth he lies upon.
 If he were that which now he’s like (that’s dead)
 Whom I with this obedient steel – three inches of it –
 Can lay to bed forever (whiles you, doing thus,
 To the perpetual wink for aye might put
 This ancient morsel, this Sir Prudence, who
 Should not upbraid our course) – for all the rest
 They’ll take suggestion as a cat laps milk;
 They’ll tell the clock to any business that
 We say befits the hour. (2.1.277-291)

If Gonzalo is “Sir Prudence,” then Antonio is out of all modesty. To justify murdering Alonso, Antonio must convince Sebastian that his conscience will not molest him once the deed is done. To do so, he not only denies Alonso any of the duty owed to him as king, he goes one step further and reduces his existence to the very earth upon which he lies. In fact, Antonio uses metaphor here in this speech to force a kind of category confusion, suggesting that Alonso is

already dead, because he is asleep and like the earth, and that Gonzalo is no more than a 'morsel,' whose death would be meaningless. But more to the point are the final two lines in the speech: "They'll tell the clock to any business that / We say befits the hour." Antonio claims that they'll have nothing to worry about from their compatriots, who will believe anything, and who will make time fit Antonio's will rather than telling what time it is. Antonio completely disregards occasion, seeing time as merely another adjutant to his will. He dictates the terms rather than occasion.

Although Antonio and Sebastian are ultimately unsuccessful in their plot to murder and usurp the king, this speech crystallizes for us the two major poles, between Gonzalo and Antonio, of temporal thinking in the play, and their relationship to the will. A subtle sense of time and occasion is responsible for knowing both when to act and when to act justly. We see this in Gonzalo who, though recognizing the truth of the situation—that Alonso made an error in letting his daughter be shipped so far away—also knows when it is appropriate to voice those concerns. In this regard, Gonzalo acts as a preserver of relationships and duties, of social order and cohesion, truths that might otherwise be disrupted by rehearsing the facts of Alonso's mistake. Antonio, on the other hand, disregards completely and totally the duties and responsibilities that arise out of a concern for the occasion. His only concern is asserting his will regardless of the circumstances and even regardless of the outcomes. Indeed, his only interest in facts is in how they might serve him in achieving his ends. Thus, we can see how the Renaissance concern for occasion and opportunity might map onto Heidegger's description of *techné* and technology. The former preserves a sense of mutuality in the constitution of a thing or a circumstance, while the latter is concerned only with the possibility of achieving certain effects, regardless of the situation. In fact, the latter seems to deny even the possibility of a

situation, or sees it as another factor that can be controlled for and ultimately brought under the sway of technological dominance. If, as Spiller points out, the play and Prospero have often been seen as developing a technological-scientific dominance over their world, i.e. Prospero as magus who is able to shape and change the world at his whim, we are led to ask then if our consideration of time might change this understanding. The answer, I believe, is yes.

VI. The Prudent Prospero

In the history of *The Tempest* criticism, Prospero has often been seen as “representing the understanding mind, reason, and the logical faculty, and his books represent science.”³⁶⁷

According to critics who endorse this view, Prospero’s development is marked by an increased understanding of how knowledge gives him power over people and things. Spiller writes,

We cannot read in Prospero’s book [*sic*] but we can see its consequences. The book and the kind of knowledge that it represents give Prospero the ability to control nature—or at least human perceptions and experiences of nature. Prospero regains control over his life because he abandons the philosophy of the liberal arts that Aristotle represented and embraces a new maker’s knowledge tradition exemplified by this pseudo-Aristotle.³⁶⁸

Wherever we look in the criticism, Prospero’s power and control over his island and his native subjects—Caliban and Ariel—are understood as the keys to his character and the larger stakes of the work. Kermode’s classic introduction to the play contends that Prospero’s “Art is here the disciplined exercise of virtuous knowledge” or that it “controls Nature; it requires of the artist virtue and temperance if his experiment is to succeed; and it thus stands for the world of the better nature and its qualities.”³⁶⁹ These discussions often praise the work for opening new spaces for thinking about nature and philosophy, leading to new dimensions of truth telling and political engagement. Others are less sanguine, of course, noting rightfully that that kind of

³⁶⁷ Sokol, *Brave*, 28.

³⁶⁸ Spiller, “Shakespeare”, 36.

³⁶⁹ Kermode, “Introduction”, xlvii-xlviii.

power is both contingent and, at the very least, ethically questionable. Among these are Denise Albanese who notes the “isomorphism of the ‘New World’ and the ‘New Science’.”³⁷⁰ Fátima Vieira argues that *The Tempest* is the play “where Shakespeare best examines the power given to men by ‘natural philosophy’ and the dangers of that power.”³⁷¹ Donald Carlson argues in the same vein that “The play dramatizes the consequences of entrusting great power to those who hold a new kind of knowledge and manifests that power through the spectacle of the play’s performance while placing it under close and ultimately skeptical scrutiny through the words and actions of the play’s characters, especially its protagonist Prospero.”³⁷² Whether ambivalent or sanguine about the apparent identification of power and knowledge in the play, each of these critics agree that it is there, that Prospero, for good or ill, represents a figure of new knowledge. According to them, the play presents Prospero either as triumphant in the new knowledge which allows him to subjugate, man, beast, and island, or whose ethical status is ultimately vexed by the uncritical alliance of knowledge and power.

If, however, we consider the place of temporality in *The Tempest*, I think we can productively move the conversation away from its focus on whether Prospero’s effective power is good or bad, and ask instead whether indeed Prospero represents the kind of technological magus critics have been so fond of presenting him as. Of course, that reading is meaningful, important, and ultimately persuasive precisely because as a character of seemingly super-human abilities and knowledge, Prospero does seem to be linked with the contemporary and pressing concern of human technological ability. As Spiller correctly notes, “the culture and science of the period is deeply concerned with how “human invention and intervention...counted as

³⁷⁰ Albanese, *New*, 68.

³⁷¹ Vieira, “Prospero’s”, 110.

³⁷² Carlson, “Power”, 2.

knowledge.”³⁷³ My contention is, however, that while Shakespeare is aware of the stakes of the conversation, he sees something, namely temporality, which has been missed in the contemporary debates about what constitutes knowledge. While temporality is a lively and motivating concern of political theorists in the Renaissance,³⁷⁴ the new science’s concern with being as the ground of their investigations means temporality is only a surface concern if a concern at all.³⁷⁵ As I have suggested in my discussion of William Gilbert, even when the new science seemed concerned with the temporal and particular character of a phenomenon, that concern almost always reduced the irregular aspects of the manifestation to inessential aspects of history and focused instead on the “regular, calculable, and constant” manifestations of its being. Prospero differs from these early new scientists in that he needs to take advantage not of a phenomenon that can be fixed in its regularity, but of a momentary and irregular occasion. The

³⁷³ Ibid., 24.

³⁷⁴ See for instance the first part, “Particularity and Time” of J.G.A Pocock’s monumental study *The Machiavellian Moment: Florentine Political Thought and the Atlantic Republican Tradition* (Princeton: Princeton University Press, 2016). Therein he writes, “The republic or Aristotelian polis, as that concept, reemerged in the civic humanist thought of the fifteenth century was, at once universal, in the sense that it existed to realize for all its citizens all the values which men were capable of realizing in this life, and particular, in the sense that it was finite and located in space and time. It had had a beginning and would consequently have an end; and this rendered crucial both the problem of showing how it had come into being and might maintain its existence, and that of reconciling its end of realizing universal values with the instability and circumstantial disorder of its temporal life. Consequently, a vital component of republican theory—and, once this had come upon the scene, if no earlier, of all political theory—consisted of ideas about time, about the occurrence of contingent events of which time was the dimension, and about the intelligibility of the sequences (it was as yet too soon to say processes) of particular happenings that made up what we should call history. It is this which makes it possible to call republican theory an early form of historicism, though we shall find that many of the connotations of our word “history” were at that time borne by other words and their equivalents in various languages—the words ‘usage,’ ‘providence,’ and ‘fortune’ among them” (3).

³⁷⁵ Bacon writes in *The Advancement of Learning*, “For the truth of being and the truth of knowing are one, differing no more than the direct beam and the beam reflected. This vice [of learning] therefore brancheth itself into two sorts: delight in deceiving, and aptness to be deceived; imposture and credulity; which although they appear to be of a diverse nature, the one seeming to proceed of cunning, and the other of simplicity, yet certainly they do for the most part concur” (142).

possibility of returning home and of regaining his dukedom is not subject to the laws of knowledge and scientific investigation; it cannot be repeated *ad infinitum* to reveal the “true” nature of its manifestation. No, it is a moment of particular and immediate historicity that, rather than inviting mastery—political or scientific—requires an astute attention to contingency and particularity.

In telling the story of their exile from Milan, Prospero rehearses to Miranda the familiar humanist themes of the conflict between the *vita contemplativa* and the *vita activa*. He says,

And Prospero the prime Duke, being so reputed
In dignity, and for the liberal arts
Without a parallel; those being all my study,
The government I cast upon my brother
And to my state grew stranger, being transported
And rapt in secret studies. (1.2.72-77)

In this moment, study is opposed to action as if they were two mutually exclusive activities. The criticism picks up on this as a theme. Bate writes,

The Tempest asks a central humanist question: what do we have to learn from books? The answer is potentially nothing, potentially everything. That is to say at one level the play is a melancholy critique of humanist ideals; it begins with a man ‘for the liberal arts / Without a parallel’, but ends with a drowning of the books, a renunciation of humanism’s secular wisdom and a heavy epilogic hint that the only true book is the Bible. But at the same time, the play is itself an embodiment of the regenerative possibilities provided by humanist learning: it simply could not have been written without the education which made Shakespeare what he was. The action of the play is a testing of the book against experience; one of the purposes of the play is a similar testing of the power of theatre.³⁷⁶

For him, there is no necessary difference between the one and the other. The *vita contemplativa*, Prospero’s, and by extension Shakespeare’s, books are what make something like *The Tempest* possible. The active life is dependent upon the learning of the contemplative life, and its experiments wouldn’t be possible without it. Albanese, on the other hand, disagrees, arguing

³⁷⁶ Bate, “Humanist”, 5-6.

that, “Prospero’s knowledge appears to be useless in the Dukedom of Milan, stands opposed, in fact, to the power of the throne he is born to occupy, as the *vita contemplativa* to the *vita activa*.”³⁷⁷ Both versions of this debate turn on the question of whether Prospero’s knowledge has been useful. The subtext here is that in order to be meaningful, knowledge has to bring something about; it always has to become active in one way or another. Despite acknowledging that his neglect of “worldly ends” is what led to his overthrow and exile, Prospero refuses to condemn that kind of study. In fact, he claims that his study “O’er-prized all popular rate,” that is that they were much more valuable than popular opinion claimed they were, a sentiment that reflects a more Christian view prominent in the early Renaissance.³⁷⁸ Though fleeting, this comment should give us pause and ask us to reconsider Prospero’s relationship to effective power. Does he see knowledge as giving man absolute and unmitigated power over life—a kind of hyper-Baconianism³⁷⁹--or rather than seeing it as a choice between the active and contemplative lives, has the Prospero of the island developed a sense for *when* to be contemplative and *when* to be active, making an occasional choice rather than an ontological decision? I believe the answer is the latter, and we see this the most forcefully in two moments in the play. The first I have already discussed at length, Prospero’s realization in 1.2 that his “zenith doth depend” on the “accident most strange,” the king and his entourage’s sailing close to his island. In that moment Prospero finds himself responding to a circumstance not of his own making, but recognizing that it calls him to action. At the end of the play, rather than exacting

³⁷⁷ Albanese, *New*, 68.

³⁷⁸ Despite being deeply patriotic and serving for a long period as the chancellor of the Florentine republic, Salutati praised and defended the monastic life and criticized the secular world. See, for instance, pages 326-327 in Ronald Witt’s *In the Footsteps of the Ancients: The Origins of Humanism from Lovato to Bruni* (Boston: Brill Academic Publishers, Inc. 2003).

³⁷⁹ “Now the only true and proper goal of the sciences is to bring new discoveries and powers to human life.” Aph. 81, Bacon, *Novum*, 90.

punishment on the king, and his usurping brother, Prospero decides to forgive him. While this forgiveness certainly falls within the scope of Christian virtue, more importantly Prospero seems to recognize that the occasion calls for forgiveness rather than revenge. Revenge would be the technological act, the assertion of one's own will on the situation regardless of what is called for. Forgiveness, on the other hand, preserves a temporal order, one that elides the will in the service of larger social and political bonds, as well as a future over which Prospero acknowledges that he has no control.

In introducing Prospero's mercy into his analysis of the play, Carlson writes, "If one remains skeptical of the ability of powerful technologies to improve the hearts and minds of men, then mercy becomes an essential complement to, if not a replacement for, these arts as a means of creating and maintaining the conditions of a humane life, given how refractory human beings can be." He continues later,

Prospero looks to gain by embracing the limitations of his humanity and, given the vagaries of the human condition, thereby invokes a force *more efficacious* than magic: the healing balm of mercy. Although the outcome remains uncertain, with the prospect that Antonio remains recalcitrant based in his apparent lack of remorse in the final scene, that is the risk one always takes in the offered act of pardon, the essence of which is surrendering control.³⁸⁰

Although he later defines mercy as an act of surrendering control, Carlson sees mercy as "more efficacious." The reasons for this are of course clear. Even if the results of the action in the secular realm remain unclear, they will still have clear consequences in the afterlife. Carlson goes so far as to suggest that the "Gospel depicts Jesus as a kind of magus, in everything from his calming of the tempest to his exorcism of the demons calling themselves 'Legion'".³⁸¹ Mercy, in this interpretation, remains a kind of technology, a way of bringing about a result regardless of

³⁸⁰ Carlson, "New", 15-16; 19, italics mine.

³⁸¹ Ibid., 15.

the circumstances. While I agree with Carlson in spirit, especially in his assertion that the play is in some ways skeptical of technology's power, I would like also to move the conversation in a different direction. Prospero's skepticism of technology doesn't force him to renounce its power for another kind, that of Christian mercy. Instead, Prospero's mercy is a form of *techné* and not technology. He responds to the occasion instead of trying to force the occasion to respond to him and his will. In doing so, Prospero helps to preserve a possible future for his daughter and his dukedom that will continue in his absence.

When Prospero reveals himself to Alonso, Alonso is quick to ask for forgiveness, even if he isn't quite sure that Prospero is who he claims to be. The welcome is warm even despite their history. To Sebastian, however, Prospero is cold and critical. Addressing his usurping brother, Prospero says,

But you, my brace of lords, were I so minded,
I here could pluck his highness' frown upon you
And justify you traitors! At this time
I will tell no tales.
SEBASTIAN: The devil speaks in him.
PROSPERO: No.
For you, most wicked sir, whom to call brother
Would even infect my mouth, I do forgive
Thy rankest fault – all of them; and require
My dukedom of thee, which perforce I know
Thou must restore. (5.1.126-134)

While Prospero knows that he has the resources to prove Sebastian and Antonio traitors, he chooses not to, and instead forgives them both. Though forgiving Antonio, Prospero refuses to call him brother, suggesting that although he has forgiven him, Prospero has not reconciled himself to Antonio. And of course, the threat of revealing their traitorous deeds remains. Antonio never responds to Prospero's offer of forgiveness. In either case, however, there is no indication that Antonio accepts the forgiveness, shows any contrition, or any indication that he is willing to

change his ways. Perhaps more than any other moment in the play, this mercy offered is undecideable, and the promise of efficacy is withheld within a secular framework. We might, of course, speculate that it has been efficacious in terms of divine will, but such a claim would remain mere speculation, and would remain, for the terms of our discussion, outside of the scope of modern science and technology.

This undecideability is perhaps more so a clue to Prospero's motives and his understanding of the world than the offered mercy itself. Rather than necessarily inscribing his actions within the framework of Christian moral duty, or within the scope of efficacious political action, Prospero has given us a deed where he cannot assert his will over the situation. Although he could easily "tell tales" about Antonio and Sebastian's actions, finally exacting revenge on his brother for his deposal and long exile, Prospero chooses not to. Revenge, it seems, is not called for by this occasion. And why not? Just moments before, Alonso has already restored Prospero to his dukedom, a fact which Prospero, not without a bit of *schadenfreude*, acknowledges when he asks Antonio for his dukedom back which Prospero knows Antonio must render him "perforce." Whereas in other plays, revenge may be the only recourse for redressing personal and social wrongs, it does not befit the situation here. Had Prospero sought revenge, it would have been for personal gain only, and would have done nothing to preserve or even to bring about renewed social harmony. We know finally that preserving and restoring a kind of social order is what the moment called for when Gonzalo later says,

Was Milan thrust from Milan that his issue
Should become kings of Naples? O, rejoice
Beyond a common joy, and set it down
With gold on lasting pillars: in one voyage
Did Claribel her husband find at Tunis;
And Ferdinand, her brother, found a wife
Where he himself was lost; Prospero his dukedom
In a poor isle; and all of us ourselves,

When no man was his own (5.1.205-213)

The moment parallels nicely with the action in Act 2 scene 1 where, as discussed earlier, the temporal structure of the play is revealed. The thematic tensions unfold around the question of what is lost in the shipwreck, and how Alonso has made a grave error in allowing his daughter to marry a man so far away from their own kingdom. The move, claims Antonio unfeelingly, has left Milan without rightful heirs as Ferdinand, so they believe at the time, has died in the shipwreck. That moment of “truth-telling” begins to disrupt and disturb the set of social responsibilities owed to the king, and serves as an *opportunity* for Antonio to serve his own private and destructive ends. Here, on the other hand, Prospero’s decision to withhold his personal revenge speaks to the *occasion*. In foregoing telling the truth about Antonio and Sebastian, Prospero helps to bring about to preserve the “common joy” that is called for in this moment.

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The essence of science and technology is, as Spiller put it so eloquently, the triumph of the human will over nature. As Bacon writes in his *New Atlantis*, “The End of our Foundation is the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible.”³⁸² A human empire without bounds, capable of affecting anything, is often the context within which Shakespeare’s Prospero is cast. Yet such a reading misses the fundamentally important ways in which Prospero reacts to accidents and how he moves in accordance with a structure disclosed by the occasion, rather than imposing a grand design or his will upon the situation. Rather than representing a scientific-magus figure who exercises absolute power over the island and everything on it, Prospero is engaged in a complex

³⁸² Francis Bacon, “New Atlantis” in *Francis Bacon: The Major Works*. Ed. Brian Vickers. (Oxford: Oxford University Press, 2002): 480.

web of reciprocity between the island, the circumstances, and the people nearest to him. Furthermore, Prospero does not merely represent, on the one hand, the triumph of human ingenuity and insight in the age of the new science nor, on the other hand, a warning about the hubris of human ability. Instead, Prospero shows us an alternative to scientific and technological thinking that is deeply tied up with questions of limitation, boundedness, and appropriateness. When he promises at the end of the play to tell the Neapolitan court about the “particular accidents” that have befallen him and his daughter on the island, he says that once they have returned home, “Every third thought shall be my grave” (5.1.306, 312). In this regard, as an aging duke whose daughter’s wedding will necessarily change his status and role in the government of Milan, Prospero is aware here, as he has been throughout, of his limitations and what is required of him in this situation. What Prospero has learned through his experiences on the island is not how to be a good *active* courtier; rather, he has discovered an appreciation for how both action and contemplation are called forth by the occasion. Unlike Antonio who chooses always to act, often with destructive consequences, we find at the end of the play, a Prospero who can act but also who can contemplate death.

This of course does not resolve the ethical concerns related to Prospero’s treatment of Ariel and Caliban. In fact, it forces us to ask the question of why Prospero can be seemingly so attentive to the needs and desires of the European courtiers and yet be so brutal to Ariel and Caliban. Moreover, my analysis does not reveal what role a certain kind of untimeliness—as opposed to opportunism—might have in the play. After all, Prospero describes Caliban as “disproportioned in his manners / As in his shape” a description which accords with the preceding analysis of the structure of the occasion (5.1.291-292). In being ill-mannered, Caliban is not fitted to the moment. In this way, like Dr. King, we must be wary of those who live “by a

mythical concept of time and who constantly [advise] the Negro to wait for a ‘more convenient season.’”³⁸³ A more thoroughgoing analysis would address the question of how structures of occasion might reveal “untimely” solutions, and prove to be disruptive rather than preservative.

³⁸³ Martin Luther King Jr., “Letter from a Birmingham Jail,”
https://www.africa.upenn.edu/Articles_Gen/Letter_Birmingham.html

Conclusion

This dissertation has attempted to trace how Renaissance thinkers and writers registered poetry's capacity to see the world as one thing rather than another without foreclosing possibilities, a kind of copiousness in their own thinking about their work. For Gilbert, this requires finding a new way of speaking and thinking about the meaning of truth – rather than conceiving of truth as the revealed word of God, he expands it to mean correctness. Although Sidney and Shakespeare work against this understanding, it is a change that is first made possible for Gilbert through metaphor. For Sidney, this capacity for openness can be found in the non-assertive quality of poetic statements—that is, poetry does not lie because it does not seek to tell the truth. For Shakespeare, it is the temporal quality of poetry; poetry attends to the conditions and demands of a situation, keeping the situation open even long after its moment has passed, thus preventing us from seeing time merely as a linear succession of interrelated moments. Poetry both attends to the moment and prevents itself from being completely folded into the moment. This strife is the essence of poetry. This seems to be why both such gifted thinkers continued to return to the poetic arts despite those arts' diminished status at the end of the Renaissance. Poetry continues to be the lifeblood of civic and political engagement precisely because it offers more than calculated and pragmatic answers to social and political problems. It opens a space for continued engagement, and prevents us from resting too easily with our answers.

As we move forward into the 21st century, one of our goals as scholars of the Renaissance and students of art and history will be to continue this alternative means of thinking and engaging with the world, especially in the face of scientific and technical dominance. With the exception, perhaps, of climate change and its imminent threat of global ecological disaster, we have never been more convinced of our ability to engineer the future. Science and technology,

we are told, are the only way forward. Even in the humanities, our curricula become more research based and focused each year, with the promise that creating new knowledge is, in analog to the natural sciences, the means of securing real, undeniable truths. It is not at all surprising to see so many Renaissance historians and critics wishing to collapse the distinctions between the arts and sciences in the period. The undeniable success of the modern sciences and technology in every facet of modern life makes finding analogies between them and the humanities irresistible. If, finally, the arts and humanities work analogously to the sciences, then perhaps, the thinking goes, they will be as indispensable to modern life. Yet, despite the nobility of this goal and the tremendous insight these studies have shown, that analogy is much more tenuous than we might first like to believe. Science, as I have suggested in my Gilbert chapter, has articulated an understanding of truth that denigrates the humanities much earlier than Turner, Marchitello, Spiller and others would like to believe, and tremendous differences were felt on both sides of this burgeoning divide.

What humanism is and does, how to assess its goals and accomplishments, and what intellectual contexts to place it in is a famously controversial problem.³⁸⁴ Owing to the massively influential work of P.O. Kristeller, one of the poles of this conversation has been humanism's relationship to philosophy, particularly a Kantianism that privileges epistemological questions, concerns which obviously lie at the heart of the scientific issues explored in this dissertation. Because I have relied heavily on Heidegger's thinking about the relationship between science and poetry to structure and pursue the important questions of this dissertation, I would like to briefly comment on this conversation. Even though my sympathies are in many respects with the

³⁸⁴ Although it is now an older work, Wallace K. Ferguson's *The Renaissance in Historical Thought* is an excellent discussion of precisely these issues. (London: University of Toronto Press in association with the Renaissance Society of America, 2006).

Heideggerian (Grassi, Celenza, Rubini) or Hegelian (Garin) readers of the tradition—the explicitly anti-Cartesian and Kantian philosophical camps—I resist the temptation to identify humanism with philosophy. While I believe that there are ample reasons to support using Heidegger’s thinking to read and understand the Renaissance, and, as I have argued here, the intellectual goals of the Renaissance cannot be reduced to knowledge-making. I do not believe that the diffuse practices of humanism cohere into philosophy, whether Kantian or Heideggerian. For these reasons, I would like to suggest that the most appropriate response to humanism is not to be found in the canons of knowledge production or in philosophical speculation but in teaching.

Like much of the criticism of Renaissance humanism in the 20th century, we might be tempted to claim that humanism constitutes a unique philosophical movement. Of course, this question has also been bound up with the status of philosophy in the 20th century, especially in the conflict between Kantian rationalists and the existentialists, especially the Heideggerians, and the post-structuralists. Depending on the camp to which the critic belongs, the answer to whether humanism is a philosophy changes. Recent critical reassessments of P.O. Kristeller’s work have focused on how his commitment to a kind of Kantian idealism influenced his thinking about Renaissance humanism. Famously, Kristeller argued that, “Italian humanists on the whole were neither good nor bad philosophers, but no philosophers at all,” and that, “the humanists merely intended to speak well, according to their taste and to the occasion, and it still remains to be seen whether they were less successful than their medieval predecessors or their modern successors. Being pieces of ‘empty rhetoric,’ their speeches provide us with an amazing amount of information about the personal and intellectual life of their time.”³⁸⁵ Kristeller had a very strict

³⁸⁵ Kristeller, “Humanism”, 91; 95.

understanding of what counted as philosophy, a standard which he felt the humanists never achieved. According to Kristeller, the humanists continued the medieval tradition of *ars dictaminis* and “modified its style according to their taste and classicist standards.”³⁸⁶ Their single innovation was style, thus they never reached the heights, nor did they want to, of a new philosophy. Kristeller contended, “Although we may not endorse all of Plato’s critique of rhetoric, we must maintain with him that there is a clear distinction between opinion and knowledge, and that philosophical as well as scientific and scholarly knowledge have a validity that is different from, and superior to, anything that rhetoric can offer.”³⁸⁷ For Kristeller, philosophy, like science, can be conceived of only from the perspective of knowable truths. Writing about the intellectual milieu out of which Kristeller’s understanding of philosophy originates, Christopher Celenza contends, after Kant,

Philosophy became *about* knowledge and knowing, and knowledge seemed to be what all disciplines (natural sciences and humanistic disciplines alike) were interested in gaining. Since all disciplines were at some level about gaining knowledge, and since philosophy was about critically examining the attainment of knowledge, philosophers, especially after Kant, considered their discipline a master-discipline that oversaw and adjudicated the claims and arguments of the others.³⁸⁸

³⁸⁶ Ibid., 94.

³⁸⁷ Qtd. in Christopher Celenza, *The Lost Italian Renaissance: Humanists, Historians, and Latin’s Legacy* (London: Johns Hopkins University Press, 2004): 50.

³⁸⁸ Celenza, 67. For a more detailed discussion of Kristeller’s Kantianism, see chapter five, “A Philosopher’s Humanism: Paul Oskar Kristeller” of Rocco Rubini’s *The Other Renaissance*. While neither Rubini nor Celenza necessarily agree with the consequences of Kristeller’s Kantianism, both recognize the tremendous value of his thinking, especially as it motivated his manuscript studies. According to Celenza, “Kristeller’s general interpretation of humanism fosters manuscript studies in a way that the diachronic approach [to history] never can, since the synchronic approach has the effect of ‘leveling,’ if one considers Renaissance intellectuals. In other words, if one focuses on all those who shared some sort of commitment to the five *studia humanitatis* and makes humanism thus defined the center of research, it is not so necessary to make value-based distinctions among humanists or indeed among other Renaissance thinkers such as Aristotelians or Platonists...Kristeller’s [work]...testif[ies] to his belief that the sources had to be fully surveyed and eventually edited before they could be studied as part of a visible whole. Renaissance thought, for Kristeller, was Wissenschaft: ultimately unknowable, but

Hence Kristeller's contention that humanism is not a philosophy. For him, because humanism didn't provide a systematic way of knowing things and knowing how to judge the claims of others, it couldn't be philosophical.

Of course, having a perspective on what counts as philosophical, and allowing that perspective to guide the research on humanism is not an issue. As Celenza avers, "Kristeller's approach has been influential because it is clear, empirical, and universal. Instead of arguing over a necessarily subjective definition of humanism, scholars could finally sweep that question out of the way and get to work. And the main work was editing texts."³⁸⁹ Celenza analogizes this kind of work, one where the perspective takes over and clarifies difficult interpretive issues to the work of normal science as defined by Thomas Kuhn.³⁹⁰ Researchers are able to understand and work out the consequences of the paradigm without having that paradigm called into question. Their work no longer asks about the truth of the paradigm; instead it tries to paint as complete a picture as possible. The analogy to Kuhnian scientific paradigms is instructive. Kristeller sees knowledge production as the main goal of historical research into humanism. Reading the works of Renaissance humanists provides us merely with information about "the personal and intellectual life of their time." These texts constitute bare information. Because there is nothing philosophical about the Renaissance, he argues, there isn't anything to argue about, no difficult interpretive questions about the meaning and nature of the humanist enterprise, just materials to be edited and arranged. Although there is no necessary causal link between the belief that Renaissance poetry was a kind of knowledge-making practice and

something we must nonetheless strive to know" (47). Motivated by his Kantian belief that philosophy meant knowing, Kristeller sought out to know as much about the Renaissance as he could, something that was only possible through rigorous and extensive textual analysis.

³⁸⁹ Celenza, *Lost*, 52.

³⁹⁰ *Ibid.*, 75.

Kristeller's judgement that Renaissance humanism is just something to be edited and commented on, we can see here the tendency to emphasize knowledge-making as the primary goal of investigating the Renaissance. It is no surprise, then, that contemporary scholars interpret knowledge-making the aim of humanist practices, and thus the criterion for defending humanism and the humanities.

Of course, Kristeller's is not the only voice in this debate. There is another group of scholars, influenced primarily by Hegel and Heidegger, who see humanism as anything but a knowledge-making practice. The question as to whether humanism is a philosophy remains an open one for the likes of Garin, Grassi, and Rubini. Garin believed that modern historians denied the philosophical significance of humanism because of their love "for a kind of philosophy which the 15th century abhorred...the grand 'cathedrals of idea', the great logico-theological systemisations. The humanists disliked that idea of a philosophy which deals with every problem under the sun and with all theological researches and which organizes and delimits every possibility within the pattern of pre-established order."³⁹¹ Garin agrees with Celenza and Rubini that a prejudice for knowledge has colored the reception of Renaissance humanist philosophy. For Garin, philosophy in the light of humanism develops "a programme of concrete researches" which "saw that the logic of man's search is not necessarily that of Aristotle: that the logic of Aristotle is not the word of God, but a product of history."³⁹² Humanist philosophy, according to Garin, is at least slightly akin with post-structuralist and postmodernist thought that tries to understand an idea as it developed historically. It focuses on the local and the particular instead of the universal.

³⁹¹ Eugenio Garin, *Italian Humanism: Philosophy and Civic Life in the Renaissance* trans. Peter Munz (New York: Harper and Row, Publishers, 1965): 3.

³⁹² *Ibid.*, 3-4.

At the other extreme of Kristeller, Ernesto Grassi argues, “the Humanist (*sic*) tradition should not be discussed as a purely literary question. We must approach Humanism (*sic*) also from the standpoint of its philosophical significance and importance today. Otherwise, Humanist research can have no fundamental interest for us.”³⁹³ Grassi raises an interesting theoretical issue, to which we will return in a moment, that humanism can only be interesting to us as a philosophy. As with Kristeller, we must know how Grassi defines philosophy to understand the consequences of this argument. According to Grassi, most scholars of humanism believe that its essence lies “in the rediscovery of man and his immanent values.”³⁹⁴ For him, however, humanism’s real questions are much more fundamental: “One of the central problems of Humanism (*sic*), however, is not man, but the question of the original context, the horizon or ‘openness’ in which man and his world appear.”³⁹⁵ Man and his specific historical moment appear only from out of a horizon, a horizon which, according to Grassi, becomes the focus of humanist engagement and research. Through their translations, commentary, and political writings, the humanists attempt both to discover this originary context and to revive it for their own moment. Grassi’s philosophical chauvinism drives his entire project. His work on humanism is an attempt to refute Heidegger’s interpretation of humanism as nothing but a “naive (*sic*) anthropomorphism.”³⁹⁶ Grassi is committed to showing that Heidegger missed something importantly philosophical—philosophical in a Heideggerian sense³⁹⁷—in humanism. From his

³⁹³ Grassi, *Heidegger*, 9.

³⁹⁴ *Ibid.*, 17.

³⁹⁵ *Ibid.*

³⁹⁶ *Ibid.* See also the prologue to Grassi’s *Renaissance Humanism: Studies in Philosophy and Poetics* (Binghamton: Medieval & Renaissance Texts & Studies, 1988). Grassi narrates the political and philosophical circumstances surrounding his investigation of humanism, including his publication of Heidegger’s “Letter on Humanism.”

³⁹⁷ Grassi’s distinction between medieval and humanistic thinking is a good example of Heideggerian philosophy. The intent of his project, he writes, is “to show that the radical

perspective, because it is a philosophy, it would be meaningless to try and understand humanism as anything else.

Rocco Rubini, perhaps most passionately and forcefully, argues that humanism should be taken seriously as Renaissance philosophy. His book traces the reasons why humanism was erased from the history of philosophy to begin with: the Cartesian/Kantian prejudice for knowledge, Heidegger's dismissal of humanism as an anthropology and not a philosophy, and a Renaissance shame which manifested both in and outside of Italy about humanism. He introduces his project by asking why modern philosophy, with its turn away from Cartesian/Kantian rationalism, ignores humanism:

Descartes premised his cogito-centered revolution in confrontation with the humanist alternative as he conceived it...In the brisk, impatient account of his formative years that begins the *Discourse on the Method*, the "first modern philosopher" justified his dour, solitary, and book-bereft defection from the Renaissance enterprise by suggesting that the past was no longer of interest, nor were intercultural exchange and *con-genial* (transhistorical) recognition. These facts call our attention to what a student of Renaissance thought, if not a philosopher, is bound to perceive as another oxymoronic contradiction: the conflation of Cartesianism and 'humanism.' In other words, if our postmodern efforts to recover man's situated consciousness have been directed at precipitating the bankruptcy of Cartesian subjectivism, it is to be lamented that French philosophers would not seek a historical precedent for their endeavors.³⁹⁸

If the German and French philosophers of the mid-twentieth century had cared to look for an historical precedent to their own anti-Cartesianism, then they needed to look no further than the

difference between the antique-medieval and the 'new' humanistic philosophies lies in the fact that the former proceeds from an ontology, a theory of beings, while the specific Humanistic (*sic*) process of thought begins with the problem of words, above all the poetic idiom." Ontology forces thinking to begin from a fixed understanding of the essence of things, and thus it can never attend to how a thing arises historically and out of historical circumstances, nor how it changes in history, nor how it changes history. Begin with the "poetic idiom," however, allows us to see how language opens a historical phenomenon and moves through history. This kind of thinking is fundamentally opposed to notions of fixed essences. Essence is still an important idea for Heidegger and for Heideggerians, but it is given new meaning through this focus on historical existence. Grassi, *Renaissance*, 10.

³⁹⁸ Rubini, *Other*, 4-5.

philosophy which Descartes himself rejected. Dismissing humanist inquiry as excessive and overly curious, Descartes founds modern philosophy on the cogito, divorced from all intellectual traditions, so he claims, and from regular engagement with the world. With just a few simple moves, Descartes wipes away the entire edifice of humanist thinking—its emphasis on learning languages and translating, rhetorical and political engagement, immersion in foreign and distant cultures—and sets himself the task of building a new foundation for philosophy, the thinking self. Rubini sees in humanism (and post-structuralist thinking) the answer to the Cartesian-Kantian epistemological prejudice and the emphasis on knowledge-making, but he sees it only through the lens of philosophy. To become something other than knowledge-making, humanism must become philosophy.

In response to the Rubini book, I should have asked why humanism needs to become a philosophy. In claiming something is ‘philosophical,’ we grant to a work a deep self-reflexivity that it might not have. Though the work may not be purely ornamental (in Kristeller’s terms), it also does not necessarily rise above the demands of its moment. We can ask why this is significant and challenging without insisting that it is philosophical. This spares us an unnecessary privileging of philosophy, especially of the professional or systematic kind, and allows us, hopefully, to avoid metaphysical dogmatism. Furthermore, it allows us to confront the rhetorical and the poetic as such without forcing either into the artificially narrow confines of a philosophical or scientific enterprise, and helps to preserve the important differences and possibilities that each opens up. In the final analysis, we do not need to “restore” humanism to either philosophy or science. Humanism, as Kristeller rightfully asserts, is neither. It is something else, and our historical inquiries ought to preserve and insist on this alterity rather than to fold it into the rubric of more recognizable categories.

In preserving this alterity, we must attend to the conditions of public performance, active disputation, and translation that are constitutive of humanistic practice. Oration, disputation, philology, and the development of political and rhetorical abilities are not the epiphenomena of some deeper structure that we might call “humanism,” its essence so to speak. Rather, they are in their variety and in their conflict the thing itself. This means that our own thinking and practices, to do humanism any justice, cannot limit our engagement with humanism to research. Our own practice, as both Rubini and Celenza have argued, must encompass teaching, translation, public engagement, debate, and the whole range of humanistic practices, rather than being narrowed to research and publication. When we imagine that knowledge is our ultimate end, as we in the academy have in recent years, then we limit ourselves to the creation and communication of that knowledge. Humanism, however, calls upon us to do so much more.

If we follow Heidegger’s conviction that at the end of philosophy—that is, when philosophy has come to the end of its initiating question about the Being of beings—then the task that follows is to ask about the opening.³⁹⁹ As I have argued, especially in the first chapter,

³⁹⁹ Heidegger writes, “In jedem Fall wird das eine klar: Die Frage nach der Ἀλήθεια, nach der Unverborgenheit als solcher, ist nicht die Frage nach der Wahrheit. Daum war es nicht sachgemäß und demzufolge irreführend die Ἀλήθεια im Sinne der Lichthung Wahrheit zu nennen. Die Rede von der »Wahrheit des Seins« hat in Hegels »Wissenschaft der Logik ihren berechtigten Sinn, weil Wahrheit hier die Geiwßheit des absoluten Wissens bedeutet. Aber Hegel fragt auch nicht, sowenig wie Husserl, sowenig wie alle Metaphysik nach dem Sein als Sein, d.h. die Frage, inwiefern es Anwesenheit als solche geben kann. Es gibt sie nur, wenn Lichtung waltet. Diese ist mit der Ἀλήθεια, der Unverborgenheit, zwar genannt, aber nicht als solche gedacht” (86-87). [“In any case, one thing becomes clear: the question concerning *aletheia*, concerning unconcealedness as such, is not the question concerning truth. Thus it wasn’t appropriate and as a result misleading to call *aletheia* in the sense of the clearing truth. The discussion of “the truth of being” in Hegel’s *The Science of Logic* its rightful place, because there truth means the certainty of absolute knowledge. But Hegel doesn’t ask, nor does Husserl, nor does all of metaphysics, about Being as Being, that means, the question as to what extent there can be presence as such. There can only be presence when the clearing reigns. This is named in *aletheia*, unconcealedness, but never thought as such.”] Heidegger clarifies in this passage one of the initiating questions of his thinking: how does something like Being show

poetry, whose essence is metaphorical and fictive thinking, is one essential part of this opening. Because poetry opens spaces for thinking without affirming them as true, i.e. as ever-present, poetry is one aspect of this opening. Poetic spaces, in which notions of truth or reality are neither fixed, nor given, nor even necessary, provide us a way out of the limitations of technological thinking. These include many of the creative realms inhabited by the humanists. Heidegger's insights about the history of philosophy and thinking—even if they run counter to his comments about Renaissance humanism—allow us to see Renaissance humanism in its various national manifestations as pursuing the problem of openness, of the clearing, from Sidney's skeptical understanding of poetry to Shakespeare's dynamic poetic temporality, often despite the philosophical, scientific, and technological impulses that, convinced of their correctness and their efficacy, deny the meaningfulness of these pursuits. Thus, we can avoid deciding between more science and more philosophy in our attempts to understand and defend the humanities, especially the study of Renaissance humanism in all its modes and national flavors. There are, of course, reasons other than the purely intellectual and historical for deciding against these two paths. As Bill Readings writes in his discussion of how to dwell in the university in ruins, "The question of the University cannot be answered by a program of reform that either produces knowledge more efficiently or produces more efficient knowledge. Rather, the analogy of production itself must be brought into question: the analogy that makes the University into a bureaucratic apparatus for

itself as present? The whole history of western metaphysics has taken the fact that Being can show itself as present as being the fundamental determination of Being. Thus presence, *Anwesenheit*, and essence, *Wesen*, have become determinate of all thinking. Philosophy comes to an end when thinking about Being as present, i.e. as beings, has "gathered in its most extreme possibilities" (70-71). This is, according to Heidegger, what we have come to call "technology" which sees everything as present for every other thing. "Das Ende der Philosophie und die Aufgabe des Denkens," in *Gesamtausgabe I. Abteilung: Veröffentlichte Schriften 1910-1976 Band 14: "Zur Sache des Denkens"* (Frankfurt am Main: Vittorio Klostermann GmbH, 2007). Translation mine.

the production, distribution, and consumption of knowledge.”⁴⁰⁰ The production of knowledge is caught up in the technological mode of thinking that I discussed in my final chapter. It is one that imagines that knowledge can be had, and that we can make things stand still before us, reveal their secrets to us, and then share those secrets regardless of the situation we find ourselves in. It is one in which the situation and temporality of knowledge is always the same: either something is known or it is to be known. But Readings, like Heidegger, is skeptical of that narrative.

Readings argues that the classroom transforms not by “communicating knowledge” and creating independent, autonomous actors who can thus actualize that knowledge in any given context. Readings writes,

In place of the lure of autonomy, of independence from all obligation, I want to insist that pedagogy is a *relation, a network of obligation*. In this sense, we might want to talk of the teacher as *rhetor* rather than *magister*, one who speaks in a rhetorical context rather than one whose discourse is self-authorizing. The advantage here would be to recognize that the legitimation of the teacher’s discourse is not immanent to that discourse but is always dependent, at least in part, on the rhetorical context of its reception. The *rhetor* is a speaker who takes account of the audience, while the *magister* is indifferent to the specificity of her addressees.⁴⁰¹

The scene of teaching develops two ideas we have seen already in Sidney and in Shakespeare.

The first, as in Sidney, is the notion that the discourse is not self-authorizing. Poetic texts establish a dialectical relationship to the world from which they emerge, in which one gives coherence to the other without either becoming completely coherent through the other. This mutual dependence short circuits any possibility of possessing the poetic text as a whole, complete and coherent unto itself. The temporality of Shakespeare’s *The Tempest* reveals the ways in which occasions, such as the occasion of teaching, reveal our obligations in that moment. These obligations do not come to an end when the moment of teaching concludes. As

⁴⁰⁰ Readings, *University*, 163.

⁴⁰¹ *Ibid.*, 158.

Reading points out, “What prevents a fusion between teachers and students and makes teaching interminable (structurally incomplete) is that the network of obligation extends to all four poles of the pragmatic linguistic situation: the sender, the addressee, the referent, and the signification.”⁴⁰² The referent, in this case, is the thinking to be done, which “has no intrinsic meaning.”⁴⁰³ In this regard, the situation remains mutual and never ending.⁴⁰⁴

Defending the humanities and moving them forward into the 21st century, a century which will only be further defined by its technological progression and domination, will require us to become better teachers in the ways laid out by Readings. This will require us, therefore, to become better humanists. Kristeller was likely right when he described humanism as being rhetorical, but we do not need to accept the conclusion that this rhetoric was merely ornamental. Though not all humanists in the period were Gonzalo-like in their care and concern for their situation, speaking to the moment and to the network of obligations instead of to their own will, their concern for rhetoric and historicity made them careful students of the occasion.⁴⁰⁵ A reinvestment of our resources into teaching may bring us closer to the successes of Renaissance humanism and the early humanities, and give us a way forward beyond the seemingly all-encompassing embrace of technology.

⁴⁰² Ibid., 159.

⁴⁰³ Ibid.

⁴⁰⁴ I am not advocating for the kinds of teaching reforms called for by neo-liberal politicians in both the US and the UK. When teaching is subject to a program of knowledge production that requires more students, more evaluations, more tests, and more and bigger lectures, then it is no longer teaching. Maximizing outcomes through efficiency measures reduces teaching to a technological product and does not create the kind of interactions that neither Sidney, Shakespeare, Heidegger, nor Bill Readings have called for.

⁴⁰⁵ See especially part one of Pocock’s *The Machiavellian Moment*.

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