

## Renaissance Magic as Catalyst for Scientific Revolution

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The crux of the entire issue regarding the coexistence of Renaissance magic and science can be distilled down to one of ambiguous definition. The universality of hermetic language, once decoded, coupled with its central doctrine that god is all, and all is good, therefore exploration of the good leads towards *nous*, which in turn leads to immortality and a union with god, was handed down from the *Hermeticum* of Trismegistus. This tradition of exploration to better understand the “bridge” position held by mankind between divine and earthly led to empirical observation in what became medicine, astronomy, and chemistry. In the 15th and 16th centuries, there was very little distinction between what constituted magic and what constituted science. In fact, science was not a term used very often, nor was it anything close to the scientific method known today. The precursor to biology in the Renaissance was known as natural philosophy, or *magica naturalis*<sup>1</sup>; chemistry’s precursor was known as Paracelsian chemical philosophy. While there are much greater differences between our scientific disciplines of today and their Renaissance precursors, it is crucial to remember that this period saw the start of the observational method. It is reasonable to think that definitions, like the scientific method itself, were the subject of the same rigorous process of refinement.

The word Renaissance itself means “rebirth”. Beginning in Italy and spreading north and west, new ideas and philosophies took root in Europe. The word “rebirth” is an interesting choice, which illustrates the mentality of the early Renaissance aptly. Since the middle ages, the ancient Greek names Aristotle, Galen, and Celsus were commonplace in the academic world. Much like the conditions in ancient Greece itself, knowledge was passed down in a formulaic way. The Medieval university was a conservative entity, with a brand of scholasticism that was very averse to innovation.<sup>2</sup> As the Renaissance progressed, and as

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<sup>1</sup> Paola Zambelli, *White Magic, Black Magic in the European Renaissance*, (Boston: Brill, 2007),18

<sup>2</sup> Allen G. Debus, *Man and Nature in the Renaissance*, (Cambridge: Cambridge University Press,

more scholars began interacting with the Byzantine Empire, new texts and those thought lost began to spread in Italy.<sup>3</sup> Among these texts were the scholastically accepted names of Galen, Celsus, and Ptolemy, but other more occult works were translated as well. These works from antiquity included mysticism, cabbalistic, and Hermetic knowledge as well as detailing natural magic.<sup>4</sup> These works set in motion an intellectual rebellion against scholasticism and its commentaries on ancient wisdom; one that would bring about the practices of chemistry and alchemy, but also observational and quantitative science.<sup>5</sup>

The rejection of the scholastic model would not be possible without the translation of Hermetic writings. In order to trace the extent to which Renaissance magic and science are intertwined, the explanation of what exactly Hermeticism is and how it changed the mindset of Renaissance scholars needs to be addressed. Hermetic texts dealt with alternative philosophies, ones that held mysticism in much higher esteem than Galen, or Aristotle. In short, Hermeticism can be described as overwhelmingly anti-Aristotelian and Neo-Platonic in scope.<sup>6</sup> As Aristotle and his ilk were seen as atheists, there was a conscious effort by the Catholic Church to integrate religion into the academic world. The prime example is the *Corpus hermeticum*; most likely written by several different Greeks, not Trismegistus, as it was believed in the Renaissance era. The text was an amalgam of Platonism and Stoicism, with obvious influences from the Jewish Cabala and Persian Zoroastrianism.<sup>7</sup> The Hermeticists of the Renaissance who delved into this text, and the *Asclepius*, believed they were reading the writings of a man who predicted the rise of Christianity. The reality of the situation was somewhat different. The *Asclepius* and the *Corpus hermeticum* were in fact written during the stages of Christianity's infancy, when Christianity strongly resembled paganism in many ways.<sup>8</sup> Trismegistus is arguably the source for the idea of a demiurge in Hellenistic thought, as in *Poimandres*. God, a being of life and light, created a craftsman mind and

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1978), 4.

<sup>3</sup> Ibid., 5.

<sup>4</sup> Ibid., 6.

<sup>5</sup> Ibid., 7.

<sup>6</sup> Allen G. Debus, *The Chemical Promise: Experiment and Mysticism in the Chemical Philosophy (c. 1550-1800)* (Sagamore Beach: Science History Publications, 2006), 41.

<sup>7</sup> Frances A. Yates, *Giordano Bruno and the Hermetic Tradition*. (Chicago: University of Chicago Press, 1971), 3.

<sup>8</sup> Ibid., 2.

seven governors, whose mandate is fate. Because of this, the cosmos is regarded as a body, an inseparable extension of god, of which man is a part.<sup>9</sup> The Hermetic tracts describe illuminations of *gnosis* refracted through the adept's own lens of *nous*.<sup>10</sup> *Nous*, a Greek term for "the intuitive faculty of man," according to Trismegistus, was granted to all people but set as a prize for souls to achieve.<sup>11</sup> In the dialogue *Poimandres*, Trismegistus is told, "That which you see and hear is the word of the lord, but your mind is god the father; they are not divided from one another".<sup>12</sup> Trismegistus' dialogue with his son, or adept, Asclepius passes this knowledge along: "Because of this Asclepius, a human being is a great wonder, a living thing to be worshipped and honoured: for he changes his nature in a god's, as if he were a god."<sup>13</sup> Nature was both God's domain and body; by extension man was both as well. Mankind was created as a bridge between the *ousiodes*, or divine likeness, and *bulikos*, or earthly. Made from mortal and immortal to adequately serve both beginnings, humanity was to wonder at heavenly things and worship them, while tending earthly things and governing them.<sup>14</sup> Preserving the earthly world follows the will of God, as all things are part of him and required to do. A core idea of the Hermetic philosophy is that the act of unravelling the mysteries of the universe would bring the seeker closer to God.<sup>15</sup> Philosophy became a tool, rather than purely an exercise.<sup>16</sup>

The translation and dissemination of Hermetic writings spread the idea that the age of antiquity, and times previous, were golden ages of innocence and purity.<sup>17</sup> Due to this notion the Renaissance reader saw his surroundings as derivative of what came before. Everything was baser and more corrupt than it had been in ages past. This idea was echoing those of the Greeks in the hermetic texts, who espoused the same idea but in regard to the Egyptian kingdoms that preceded their

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<sup>9</sup> Hermes Trismegistus, *Hermetica*, ed. B.P. Copenhaver. (New York: University of Cambridge Press, 1992), 4.

<sup>10</sup> Yates, 4.

<sup>11</sup> Trismegistus, *Hermetica*, 7.

<sup>12</sup> *Ibid.*, 2.

<sup>13</sup> Trismegistus, *Hermetica*, 69.

<sup>14</sup> *Ibid.*, 71.

<sup>15</sup> Yates, 144.

<sup>16</sup> *Ibid.*, 4.

<sup>17</sup> *Ibid.*, 1.

own in the 2<sup>nd</sup> century.<sup>18</sup> The Egyptians were known for their complex magical systems and had the respect of the Greek philosophers and mystics. This fact coupled with the belief of Renaissance readers that Hermes Trismegistus was believed to be an Egyptian magus led to the pursuit of magical interests in Renaissance Italy. Natural magic went hand in hand with Hermeticism, and it is here that problems begin to arise with the Church in Europe. Up until this point in European history, magic sat firmly in the realm of heresy. Witchcraft was defined as consorting with devils, and those who were found guilty by the Church were dealt with most harshly. As the Witch Craze of the 15<sup>th</sup> and 16<sup>th</sup> centuries rampaged through Europe, academics found it necessary to distinguish their new *magica naturalis* from the type of magic which would lead them to the Inquisition's pyre. Two scholars, Marsilio Ficino and Giovanni Pico, discussed treatises which outlined the difference between their beloved natural magic and the "casting of spells".<sup>19</sup> In Ficino's *De Vita*, he writes:

There are two kinds of magic ... the first is practiced by those who unite themselves to demons by a specific religious rite ... and often contrive portents. But the other kind of magic is practiced by those who seasonably subject natural materials to natural causes to be formed in a wondrous way.<sup>20</sup>

This is a most, if not the most, important distinction in regard to natural magic and philosophy. Giovanni Pico had previously accepted magic as central to his philosophical study, but had not made the distinction between what was referred to as "necromantic" magic, the practice of which lead to persecution, and natural magic.<sup>21</sup> Another scholar and playwright, Giambattista Della Porta praised the earthly travels of Neo-Platonic scholars Pythagoras and Empedocles, calling the knowledge they accumulated in their travels and professed to their acolytes a science by the name of "magick."<sup>22</sup> Later he would cite Proclus' *De sacrificio et magia* as saying that "magick" was nothing more than the survey of the whole course of nature.<sup>23</sup> The *Magia naturalis* of Della Porta, Pico, and Ficino was an attempt to distinguish the

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<sup>18</sup> Ibid., 5.

<sup>19</sup> Zambelli, *White Magic, Black Magic in the European Renaissance*, 21.

<sup>20</sup> Ibid., 23.

<sup>21</sup> Ibid., 21.

<sup>22</sup> Ibid., 29.

<sup>23</sup> Ibid., 32.

natural philosophy of Neo-Platonic scholars from the demonology and ceremonial magic that the Inquisition was attempting to root out.<sup>24</sup>

This new natural magic, for which the term natural philosophy is interchangeable, was still very much a theological enterprise, but its proponents began to draw mathematics and observation into its field of study. Scholars like John Dee believed that a true Renaissance Magus would have a basis of knowledge that included hermetic practices and thought, as well as an understanding of mathematics, in which to apply these principles.<sup>25</sup> This was in direct opposition to ancient Greek philosophy, which stagnated because it concentrated on theory only, neglecting practice as base and beneath Man's purpose.<sup>26</sup> Instead of strictly adhering to the ceremonial aspects of mysticism, or the Aristotelian method of theoretical mathematics, the two dovetailed into a new discipline. This new practice was mystical, replete with allegory and myth, but also practical in the sense that it encouraged observation and the application of the knowledge hidden in myth and magic. The allegorical approach was implemented because it seemed unwise to discuss potentially powerful truths about the universe in plain forms.<sup>27</sup> The goal of such a practice was to determine the occult, or hidden, connections between earthly and celestial bodies and harness those connections. The most common methods of doing so in the Renaissance were through the practice of Alchemy and Cabalistic Numerology, the latter of which led to many advances in Astrology. Although the distinction had been made by several scholars, the practice of natural magic and alchemy was still seen as almost heretical by the Roman Catholic Church, and many well-known hermeticists over the course of the Renaissance would pay dearly for their practice.

Having outlined the progression from Hermes Trismegistus to the Renaissance theory of natural magic, it seems fitting to discuss the two disciplines which arose and benefitted most from academia's newfound observational practice. As mentioned in the previous paragraph, the two foremost disciplines are Alchemy and Astrology. Both benefitted from the synthesis of mathematics and natural magic in different ways. The study of both led to advances in the mechanical sciences, as

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<sup>24</sup> Ibid., 34.

<sup>25</sup> Yates, *Giordano Bruno and the Hermetic Tradition*, 148.

<sup>26</sup> Ibid., 4.

<sup>27</sup> Sherwood F. Taylor, *The Alchemists* (New York: Barnes & Noble, 1992), 168.

scholars found that more powerful and accurate tools were required to continue their respective studies.

The first discipline of note is alchemy. This new emphasis on observational science attracted men like Paracelsus, who is regarded as a herald of the Scientific Revolution.<sup>28</sup> The son of a Swiss country physician, Paracelsus was exposed to Renaissance thinking and alchemical practice at an early age.<sup>29</sup> He would go on to become the driving force behind alchemical exploration in the medical academic world, which would bear his name as Paracelsian Chemical Philosophy. Alchemy was introduced to European scholars through Arabic writings, and it stressed allegory, mysticism, and observational evidence as three of its main tenants. Paracelsus embodied these ideals when calling for adepts to learn from observing nature rather than sitting in their universities. This caused an intellectual rift between Paracelsians, and the Aristotelian and Galenist thinkers over the course of natural philosophy and medicine.<sup>30</sup> Although advocating for what many regard as a magical pursuit, Paracelsus thought physicians would find illumination in the two books: scripture and nature.<sup>31</sup> Just as scripture was dissected by means of biblical hermeneutics, nature was dissected and analyzed. Cornelius Agrippa, in his tract *Philosophy of Natural Magic* detailed the constituents of matter and chemical interactions as understood in the 16<sup>th</sup> century. All “elemented” bodies were composed of air, water, fire, earth, or a combination of these. The destruction of the body did not mean the destruction of these elements, as they were thought to return to their base form.<sup>32</sup> These four elements had attributes, for example, fire was hot and dry while air was hot and moist. These qualities and classifications speak to a beginning trend in observation.<sup>33</sup> The interactions of the elements and their attributes is the basis of alchemical practice. The exact attributes are not important; the importance of alchemical systems of classification lies in the type of experimental thinking it produced. Agrippa expounds on the elements further by detailing a hierarchical structure concerning the

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<sup>28</sup> Debus, *Man & Nature in the Renaissance*, 15.

<sup>29</sup> *Ibid.*, 19.

<sup>30</sup> *Ibid.*, 20.

<sup>31</sup> *Ibid.*, 21.

<sup>32</sup> Cornelius Agrippa, *Occult Philosophy: Natural Magic*, ed. W.F. Whitehead. (New York: Dover Publications, 2006), 38.

<sup>33</sup> *Ibid.*, 39.

purity of elements, their substrates, and compounds.<sup>34</sup> The value of alchemical study to the future sciences, in Agrippa's own words, was simple:

Let no man, therefore, without these three sorts of Elements, and the knowledge Thereof, be confident that he is able to work with anything in the occult Sciences of Magic and Nature<sup>35</sup>

Alchemy was quite clearly seen by its Renaissance proponents as a religious experience as well as a scientific one.<sup>36</sup> Agrippa codified a system of learning that, ostensibly, would prepare the natural magician to work properly with experimental and observational techniques. The rarefied language and ceremony were seen as a necessary part of this education, as the consequences of allowing the unworthy access to secret knowledge was considered theologically disastrous. But, in keeping with the dialectical mood of the time period, Renaissance medicine had many theories based firmly off of hermetic philosophies such as astrology. Pico's *Disputationes adversus astrologiam iudiciariam*, Fracastoro's writings, even Paracelsus himself prescribed to theories which detailed disease caused by miasmas, or clouds whose root could be traced back to crossed astrological signs.<sup>37</sup> Alchemical texts were rife with passages assigning metaphysical attributes like soul, and *spiriti* to inanimate chemicals and minerals.<sup>38</sup> Alchemy was not an exclusively spiritual pursuit though, as technological advances in the instrumentation were required. These advances benefitted the medical profession, as chemistry's medical value was soon observed. The 15<sup>th</sup> century saw many books on the preparation of medical oils and tinctures published.<sup>39</sup> Medicine, because of its close ties to alchemy and chemistry benefitted greatly from these advances. Scholars like von Nettesheim and Porta claimed that chemistry was an essential science in the understanding of the human body, and this did lead to some breakthroughs, although they were somewhat abstracted to what is now known as fact. Paracelsus postulated that disease was caused by seeds that took root in certain places in the body.<sup>40</sup> As a result, cures

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<sup>34</sup> Ibid., 41.

<sup>35</sup> Ibid., 41

<sup>36</sup> Debus, 17.

<sup>37</sup> Zambelli, *White Magic, Black Magic in the European Renaissance*, 19.

<sup>38</sup> Debus, *Man & Nature in the Renaissance*, 17.

<sup>39</sup> Ibid., 18.

<sup>40</sup> Ibid., 27.

were designed, and dosages carefully monitored.

Paracelsian alchemy was also the precursor to the first litmus tests conducted by Edward Jordan in the 17<sup>th</sup> century.<sup>41</sup> Chemical philosophy was by no means the only scientific area that found itself intertwined with occult scholarship. The study of the human body also benefitted greatly from the new focus on observational techniques. Prior to the mid 15<sup>th</sup> century, anatomy was taught only to acquaint medical students with the human body, and Galen's authority on medical matters reigned supreme.<sup>42</sup> Texts like Vesalius' *De fabrica* began to tear down some ancient knowledge, much to the author's own chagrin as he was a devout Galenist, and observational techniques worked their way into medicine.<sup>43</sup> More accurate illustrations took hold in the early 16<sup>th</sup> century, which led to new theories containing passages such as "aerial spirits interacting with the lungs."<sup>44</sup> While not scientific by today's standards, it is an important observation steeped in hermetic thinking. Books and theories on the microcosm and macrocosm of man and universe were printed, and Paracelsian scholars argued that the body's organs worked like chemical instruments, distilling and treating outside chemicals within the flesh.<sup>45</sup> Perhaps the most important physiological development of this time period is William Harvey's theory of blood flow. Taken from a disparate number of disciplines, Harvey used observational methods and mystical analogy to outline his theory that the human heart was the center of a circulatory system, making allegorical comparisons between it and the Sun.<sup>46</sup> To Harvey, the heart was a mechanical pump that circulated blood around the human body. Harvey's theory was a death blow for the ancient theory of "humors" that effected the human body and opened the way for chemically based study of blood and the human body.<sup>47</sup> While many of these theories, such as a mechanical heart and Paracelsus' "seeds of disease" are inaccurate, they very clearly lay the groundwork for more telling biological discoveries in the centuries to come.

The second major science that flourished under the combination

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<sup>41</sup> Ibid., 29.

<sup>42</sup> Ibid., 59, 63.

<sup>43</sup> Ibid., 63.

<sup>44</sup> Ibid., 60.

<sup>45</sup> Ibid., 66.

<sup>46</sup> Ibid., 67.

<sup>47</sup> Ibid., 69.



of hermetic mysticism and observation was astronomy. Until the 17<sup>th</sup> century, Ptolemaic astronomy was held as the authority when all things in the heavens were considered.<sup>48</sup> Renaissance magic held Cabalistic Numerology in very high faith, thanks to the German magician and theologian Agrippa.<sup>49</sup> Contained in the *Philosophy*, alongside his writings on alchemy, Agrippa discussed the seals and characters of the planets. These divine letters are characters designed to communicate the signs and stars which dictate the virtues and essences of all materials. In a modern parlance, these symbols would be akin to scientific nomenclature that, while abundantly clear and expedient to those trained in reading it, would be nigh unintelligible to laymen.<sup>50</sup> While numerology and semiotics are not scientific, the attention given to numbers and universal nomenclature themselves pointed academia in an inevitable direction. Numerology and its focus on numbers led to mathematical deductions, which were then applied to observations made on the natural world. Agrippa, like Dee, believed that there could be no true magic without a synthesis of math and philosophy.<sup>51</sup> The idea that numbers were the key to understanding the universe also resonated quite strongly with Johannes Kepler, who accurately calculated the orbit of the planets. Each planet was given a geometric shape which corresponded to its orbit. The hallmark of his time is still present as his later work focuses on categorizing the harmonies emitted by each planet and applying it to numerological system of music.<sup>52</sup> Many consider John Dee a groundbreaking example of a Renaissance magus in the sense that while he was primarily concerned with Cabalistic knowledge, the focus on numbers combined with the will to operate led him down a more quantitative path.<sup>53</sup> Perhaps the most famous Renaissance astronomer is Copernicus. Copernicus's *De revolutionibus orbium caelestium*, published in 1542, contained his revolutionary thesis detailing how the Sun was the center of our galaxy and not the Earth. His thesis was heavily chastised by the Catholic Church, so he presented it to those who he thought would listen: the hermetic scholars. The fact that his theory, literally, revolves around

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<sup>48</sup> Ibid., 76.

<sup>49</sup> Yates, *Giordano Bruno and the Hermetic Tradition*, 147.

<sup>50</sup> Agrippa, *Occult Philosophy: Natural Magic*, 111.

<sup>51</sup> Yates, *Giordano Bruno and the Hermetic Tradition.*, 148.

<sup>52</sup> Ibid., 151-52

<sup>53</sup> Ibid., 150.

the sun has created two attitudes towards the Copernican thesis. One is that his attention was drawn to the Sun for mystical, hermetic reasons, and the second is that Copernicus simply chose the hermetic style of delivery to attract the attention of his peers.<sup>54</sup> Regardless, his heliocentric model is certainly indicative of its time in its presentation. On the other side of the coin so to speak, are scholars like Giordano Bruno. Bruno was an Italian monk and scholar who is most famous for believing there were an infinite number of populated worlds in the universe, each with their own solar system and so on. Despite Bruno's lucky, but unfounded, guess regarding the nature of the universe, he was a proponent of Copernican theory. He did, however, chastise Copernicus for his "limited understanding" of the nature of the universe, saying that the Polish astronomer understood his own theory solely through mathematics, and not the spiritual side.<sup>55</sup> This is a perfect example of the dichotomy of Renaissance science. This was an age in which observational science was in its infancy, one where metaphysics was held in the same regard as mathematics. Renaissance magic, and by extension natural philosophy and alchemy, was a religious pursuit just as much as it was scientific, if not more.

For Paracelsus, Copernicus, and Kepler, observational science was a way to rectify the gap perceived to be between the Divine and Nature, who was increasingly revered as a divine force itself.<sup>56</sup> Natural magic and philosophy was a means to this end, and although many of the observations recorded are tinged with mysticism and hidden beneath allusion and allegory, many important steps forward were made during the 15<sup>th</sup>, 16<sup>th</sup>, and 17<sup>th</sup> centuries. Alchemy continued to exist into Newton's time, however, the modern age often overlooks his writings on transmutation in favor of his replicable scientific discoveries. For men like Bruno and John Dee, observational science took a back seat to Numerology and other mystical techniques with number and memory. As the focus of science shifted towards replicable experiment, work like that of Dee and other mystics fell out of favor. The main point that contemporary scholars confuse is that all of the aforementioned work, from Kepler and Copernicus, to Dee and Bruno, fell under the title of magic at one point or another. The important thing to

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<sup>54</sup> Ibid., 154.

<sup>55</sup> Ibid., 155.

<sup>56</sup> Debus, *Man & Nature in the Renaissance*, 13.

remember is that magic and mysticism were regarded as valid pursuits for academics at the time. Many of our modern scientific techniques trace their roots back to activities which began as heretical, hermetic, and occult. Renaissance magic was not the agent of change itself, but it played an instrumental role in changing the academic landscape in Europe.<sup>57</sup> By turning their eyes towards methodologies that placed great emphasis on observation and personal discovery, Renaissance magic cleared the way for modern science.

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<sup>57</sup> Yates, *Giordano Bruno and the Hermetic Tradition*. 155-56.

## **Bibliography**

### **Primary Sources**

Agrippa, Cornelius. *Agrippa's Occult Philosophy Natural Magic*, Edited by Willis F. Whitehead. New York: Dover Publications Inc, 2006.

Trismegistus, Hermes. *Hermetica*, Edited & Translated by Brian P. Copenhaver. New York: Cambridge University Press, 1992.

### **Secondary Sources**

Debus, Allen G. *The Chemical Promise: Experiment and Mysticism in the Chemical Philosophy (c.1550-1800)*. Sagamore Beach: Science History Publications, 2006.

Debus, Allen G. *Man and Nature in the Renaissance*. Cambridge: University of Cambridge Press, 1978.

Taylor, Sherwood F. *The Alchemists*. New York: Barnes & Noble, 1992.

Yates, Frances A. *Giordano Bruno and the Hermetic Tradition*. Chicago: University of Chicago Press, 1964.

Zambelli, Paula. *White Magic, Black Magic in the European Renaissance*. Boston: Brill, 2007.