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THE CONCEPT OF *UNGRUND*  
IN JAKOB BOEHME (1575-1624)

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In the

HISTORY OF SCIENCE

By

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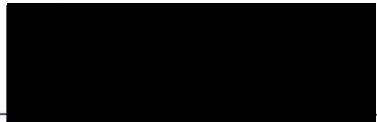
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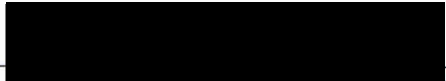
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*AD MAJOREM GLORIAM DEI ET AD ECCLESIAM*

*S. IOANNIS OKEENENSIS*

*CUM CARITAS SEMPER ET GRATIA MULTIS.*

*EPIS. AD EPH. I: xvi.*

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## ABSTRACT

This study is an exposition of the key concept of *Ungrund* as developed by Jakob Boehme (1575-1624) in his last major work, the *Mysterium Magnum* of 1624. Until lately largely ignored by the history of science community, the thought of this sixteenth century philosopher and theologian is of far-reaching significance. One of the founders of the academic discipline of the history of science, Alexandre Koyré (1892-1964), studied Boehme in a magisterial historiography with his 1928 *La Philosophie de Jacob Boehme*.<sup>1</sup>

The first chapter situates Boehme in his historical and cultural contexts. I do not attempt to explore historiographical issues surrounding Boehme so much as trace the history of the concept of *Ungrund*. This section is dependent upon archival material brought to light by Andrew Weeks and an earlier historian, John Joseph Stoudt, which details the political currents in Silesia at the time of Boehme, including the Court of Rudolph II.<sup>2</sup> I refer to Boehme's supporter, Bartholomaeus Schultz (Scultetus), a Paracelsian who served as Mayor of Görlitz, and who had been trained as a mathematician in Leipzig and Wittenberg. Schultz was a friend of Tycho Brahe who also had a long-distance professional relationship with Johannes Kepler who had visited Görlitz in 1607. Schultz may have been instrumental in having a copy of the *Astronomia Nova* produced during Kepler's visit. Scultetus also brought to Görlitz a motley assortment of persons who

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<sup>1</sup> Alexandre Koyré, *La Philosophie de Jacob Boehme* (Paris: J. Vrin, 1929).

<sup>2</sup> *Rudolf II and Prague: The Court and the City*, ed. Eliska Fuciková (Prague: Prague Castle Administration, 1997), pp. 645-710, and Robert John Weston Evans, *Rudolf II and His World: A Study in Intellectual History, 1576-1612* (Oxford: Clarendon, 1973).



figure prominently in the history of science, among whom were the alchemists Alexander Seton<sup>3</sup> and Michael Sendivogius.

The second chapter defines Boehme's seminal concept of *Ungrund*, an idea which has strongly influenced the history of science in many ways. I define the term according to its use in Boehme's last major work, the *Mysterium Magnum* of 1622. *Ungrund* can best be defined as an atypical negation which has the status of a paradox or negation in the laws of logic. The Greeks used two terms to describe negation, οὐκ οὐ and μὴ οὐ. The first describes a negation which is absolute; a negation which is totally devoid of any ontological status altogether. I argue that Boehme used the term in his late writings. The second term, μὴ οὐ, denominates a relative nothingness. This is the familiar "primordial chaos" or "matrix" posited by many classical writers as that out of which the natural order is created or, more accurately, out of which it emanates. It is indeed true that Boehme uses *Ungrund* in his early works to describe a relative nothingness. However, later in his career he shifts usages; perhaps under the influence of Scultetus and the Görlitz Paracelsian Circle among whom were his friends Tobias Kober, Abraham Walther (the well-known chemist), and Kurtz (a prominent physician). To indicate a relative nothingness, in the 1622 *Mysterium Magnum* and all his works thereafter, Boehme uses "matrix" or *Salitter*. When he does use *Ungrund* in these later works, he indicates an absolute negation, devoid of ontological status. Indeed, in his 1624 *Mysterium Magnum*, a philosophical and exegetical commentary on the Book of Genesis, Boehme conjoins two concepts, *creatio ex nihilo* and *creatio ex aliquo*. In this section I

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<sup>3</sup> John Read, "Scottish Alchemy in the Seventeenth Century," *Chymia* 1(1948): 139-151, and Ewald de Hoghelande, *Historiae aliquot transmutationis metallicae...pro defensione alchymiae contra hostium rabiem* (Koeln, 1604), as cited by Principe, *Boyle*.

also examine in brief his concept of God Himself becoming out of this *Ungrund* through an iterative process which preserves the traditional dogma of Divine aseity.

The second chapter also explores a key misunderstanding of the term *Ungrund* as found in Principe and Weeks' study of Boehme's alchemy, in which is perpetuated the claim set forth by many other contemporary philosophers and historians of science who equate the term with such concepts as Meister Eckhardt's *Abgrund*.

The third chapter explores ways in which Boehme influenced two key figures in the history of early modern science, Isaac Newton and Robert Boyle (1627-1691). B. J. Gibbons has noted that "there is in fact a superficial resemblance between Newton's system and Boehme's: both construct the universe as pervaded by mysterious forces of attraction and repulsion."<sup>4</sup> Gibbons believes there is a clear influence of Boehme on Newton but that historians of science have not taken this seriously.

I conclude that Newton was, indeed, influenced by Jakob Boehme by examining the evidence in support of Gibbons' suggestion that Newton's "demonstration that white light can be broken up into a spectrum of colours ... was devised to test a metaphysical and religious hypothesis rather than a purely physical one."<sup>5</sup> Newton investigated an idea that had been discussed amongst the Cambridge Platonists which they had derived from Boehme "that underlying the various different types of material substance in the universe

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<sup>4</sup> B. J. Gibbons, *Spirituality and the Occult: From the Renaissance to the Modern Age* (London: Routledge, 2001), p. 53, see also Principe, *ibid.*, pp. 294-209.

<sup>5</sup> Gibbons, *ibid.*, p.54.

there was also a single, pure, spiritual substance ... white light had been suggested as a candidate."<sup>6</sup> I examine Gibbons' claim that Newton hoped to demonstrate the presence of the *Ungrund* with his refracting prism, and that this was the central idea around which the impressive company of Cambridge Platonists gathered, of which group Newton was a prominent member.

In my concluding section, I examine Boyle's philosophical motivations for undertaking vacuum experiments. According to Gibbons, Jenkins, and Principe, Boyle constructed his elaborate air pumps in the attempt to evacuate all matter from the vacuum chamber so as to empirically demonstrate the (non)existence of the *Ungrund*.

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<sup>6</sup> *ibid.*

THE CONCEPT OF *UNGRUND*  
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CHAPTER ONE

If we are honest, then we have to accept that science will be able to claim complete success only if it achieves what many might think impossible: accounting for the emergence of everything from absolutely nothing. Not almost nothing, not a subatomic dust-like speck, but absolutely nothing. Nothing at all. Not even empty space.<sup>1</sup>

-Peter W. Atkins

Introduction

Jakob Böhme, a German thinker who influenced the content and development of later natural philosophy, was born in 1575 in the Lusatian village of Alt Seidenberg to Jakob (d. 1618) and Ursula (d. ca 1606) Böhme who were, as some historians have argued, “Lutheran” free peasants.<sup>2</sup> Born nearly fifty years after the death of Martin Luther and Johannes Staupitz, he lived nearly a century after the artists Hans Holbein and Lucas Cranach, but was ten years the elder of the influential composer Heinrich Schütz (1585-1672). Throughout his life, Böhme referred to himself as hailing from Oberlausitz, and never types himself as German, Bohemian, or Prussian. Görlitz, the regional seat in which Böhme spent most of his adult life, along with Eastern Lusatia, did not become Prussian until 1815, but subsequently remained under Prussian control until 1945.<sup>3</sup>

<sup>1</sup> Peter W. Atkins, “The Limitless Power of Science,” in *Nature's Imagination: The Frontiers of Scientific Vision* (Ed. John Cornwell), Oxford, Oxford University Press, 1995, pp. 122-132, p. 131.

<sup>2</sup> Andrew Weeks, *Böhme: An Intellectual Biography of the Seventeenth-Century Philosopher and Mystic* (Albany: SUNY Press, 1991), p. 35. Boehme’s name is spelt both “Böhme” and “Boehme” by contemporary authorities.

<sup>3</sup> H. W. Koch, *A History of Prussia* (London: Longman, 1978), pp. 238-250.

Böhme's parents apprenticed him to a local shoemaker<sup>4</sup> after he had completed a very rudimentary vernacular education in order that he might learn the cobbler's craft. In 1592, he launched his career as a professional cobbler, moving to Görlitz to open a shop in that city. Shortly thereafter, he was wed to Katherina Kuntzschmann, the daughter of a Görlitz butcher. Görlitz itself was a mere 90 miles west of Prague<sup>5</sup> and the Court of Rudolf II<sup>6</sup> on the main crossroads leading to that city. As a consequence, many notable religious and scientific figures passed through the city, going to or having just been to the Court.<sup>7</sup> Some argue that the self-image of the residents of Görlitz was Eastern or Middle European,<sup>8</sup> since it was located in Oberlausitz, itself bordering Bohemia on the south, Silesia to the east, Saxony and Meissen on the west, and Brandenburg on the north. Görlitz was originally surrounded by Sorb (Slavic) villages, which were gradually Germanized.<sup>9</sup> All of this throws into relief the volatile political and religious climate, illustrated further by the fact that Görlitz underwent three distinct religious changes in a short period of time.

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<sup>4</sup> Pamela H. Smith, in her "Vital Spirits: Redemption, Artisanry, and the New Philosophy in Early Modern Europe," in *Religion, Science, and Worldview: Essays in Honour of Richard S. Westfall*, eds. Margaret J. Osler and Paul Lawrence Farber (Cambridge: University Press, 1985), pp. 119-135, strongly contends that among the Paracelsians and related scholarly groups there emerged an ideology which at times tended to elevate the artisan even above the scholar. For example, she concludes on page 127 that for Paracelsus, the artisan's direct interaction with nature was the "ideal mode of proceeding in the acquisition of all knowledge."

<sup>5</sup> See Robert John Weston Evans, *Rudolf II and His World: A Study in Intellectual History, 1576-1612* (Oxford: Clarendon, 1973) and Erich Trunz, *Wissenschaft und Kunst im Kreise Kaiser Rudolfs II* (Neumünster: Wachholtz, 1992), in addition to the older, Presentist study by Henry Carrington Bolton (1843-1903), *The Follies of Science at the Court of Rudolf II, 1576-1612* (Milwaukee: Pharmaceutical Review Publishing, 1904).

<sup>6</sup> *Rudolf II and Prague: The Court and the City*, ed. Eliska Fucikova (Prague and London: Prague Castle Administration, 1997).

<sup>7</sup> See, for example, Deborah E. Harkness, *Alchemy and eschatology: Exploring the Connection between John Dee and Isaac Newton* (Dordrecht: Kluwer, 1999).

<sup>8</sup> Weeks, *ibid.*, p. 14; however, the region remained steadfastly German-speaking.

<sup>9</sup> Richard Jecht, „Geschichte der Stadt Görlitz,“ *Das Neue Lausitzche Magazin (NLM)* 99 (1923): 1-54, pp. 18-20, as cited by Weeks p. 36.

At the onset of the Lutheran Reformation, Böhme's parish Church, Sts. Peter and Paul, aligned itself with that fledgling movement without controversy. However, by the time Böhme began to work in Görlitz city in 1592, currents from the Swiss Calvinist and Zwinglian reformations began to flow into the region. Accusations of Crypto-Calvinism<sup>10</sup> were hurled at religious and civic leaders initiated by Salomon Gessner, the father of Gnesio-Lutheranism, whose goal was to expunge the Calvinists and the moderate Lutheran Phillipists (followers of Melanchthon). A slightly more friendly attitude prevailed toward the Roman Catholics of the day; indeed, a Roman Catholic deacon, Johann Leisentritt of Bautzen<sup>11</sup> served as administrator of Sts. Peter and Paul and fitted the building with chancels at opposite ends of the nave in order to serve Lutheran and Roman Catholic constituencies, respectively. This arrangement continued unimpeded for well over a century and a half, at which time the parishioners as a whole decided to shift their allegiance back to the Roman faith *in toto* without controversy. To this day, Görlitz remains Roman Catholic. Most notable among these leaders accused of Crypto-Calvinism was Martin Moller, the *Pastor Primarius* at Sts. Peter and Paul whose sermons and friendship stimulated the young Böhme intellectually and spiritually. By the time of Böhme's arrival in Görlitz, Moller was already a published author of theological, mystical, and scientific works. Moller was a part of the Paracelsian Circle in that city, in which many of the leading intelligentsia of the city held membership. Alchemy was extremely well received in

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<sup>10</sup> John Joseph Stoudt, *From Sunrise to Eternity: A Study in Jakob Böhme's Life and Thought*, introduction by Paul Tillich (Philadelphia: University of Pennsylvania Press, 1957), p. 137 n. 14, notes that "phrases and cadences of the Palatinate liturgy, basis of Calvinist worship, were evident in Böhme's work for this period." See also "Cryptocalvinismi in Lausitz," *sup. cit.*, in *Görlitz Archives Annales*, p. 255 ff., as cited by Stoudt, p. 54, n. 45.

<sup>11</sup> Walter Gerblich, "Johann Leisentritt und die Administratur des Bistums Meissen in den Lausitzen," *NLM* 197 (1931):1-78, as cited by Weeks, *ibid.*

the region at this time, having received a new lease on life by the visit of the Scots alchemist, Alexander Seton, around 1600.<sup>12</sup>

### Copernicanism in Görlitz

A significant component of the intellectual climate of the city was the Copernicanism of the Görlitz Paracelsians among whom Böhme can be numbered. One of these was Batholomaeus Schultz (Scultetus)<sup>13</sup>, the mayor of Görlitz and a friend of Böhme, who defended Böhme when the tide of ecclesiastical opinion turned against him. Schultz had been educated as a mathematician under Maestlin at Tübingen, and was therefore familiar with both the Wittenberg interpretation of Copernicus and Maestlin's stronger version.<sup>14</sup> Furthermore, Schultz had known Tycho Brahe and had extensively corresponded with Johannes Kepler, even arranging for his *Astronomia Nova* to be copied in Görlitz in 1612.<sup>15</sup> Thus, through him, heliocentrism had come to Görlitz. Another possible source of Böhme's heliocentrism was the Scots alchemist, Alexander Seton ("the chief martyr of alchemy", often confused with his student, Michael Sendivogius), who had visited Görlitz while in the diplomatic corps of Rudolph II and could have very well propagated his heliocentrism during his extended

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<sup>12</sup> Henri Guerlac in "The Poet's Nitre," *Isis* 45(1954): 221-250, deftly establishes that Alexander Seton was indeed the author of the *Novum Chymicam*, and not his student Sendivogius as Porto argues *infra*.

<sup>13</sup> Ernst-Heinz Lemper, *Jakob Böhme: Leben und Werk* (Berlin, 1976), pp. 39-45, 120-125, as cited by Principe and Weeks, *ibid.*, p. 56. See also Johannes Friedrich Weidler, *Historia Astronomiae* (Wittenberg: Schwartz, 1741), pp. 396-397, s.v. "Scultetus." Schultz (1540-1614) authored *Cometae, anno humanitatis I.C....*(Görlitz: Ambrosius Fritsch, 1578), bound with Michael Maestlin, *Observation et demonstratio cometae aetheri* (Tübingen: Gruppenbach, 1578).

<sup>14</sup> Peter Barker, "The Role of Religion in the Lutheran Response to Copernicus," in Margaret J. Osler, ed., *Rethinking the Scientific Revolution* (Cambridge: University Press, 2000), pp. 59-88.

<sup>15</sup> Weeks, p. 30. See also James R. Voelkel, *The Composition of Kepler's Astronomia Nova* (Princeton: Princeton University Press, 2001).

stay in Görlitz.<sup>16</sup> However, evidence suggests that although astronomy was important to Böhme and the Görlitz Paracelsians, mathematics was “the queen of sciences” to them, in large part due to Scultetus’ strong influence upon the cosmopolitan intellectual atmosphere in Görlitz at that time.

### Alchemy in Görlitz

Throughout his works, Böhme uses the terms *Turba* and *Turbiren*, key words<sup>17</sup> among the alchemists of his era. Alchemy was present in Görlitz at least from 1500, even before Paracelsus. Some scholars link the name of Georg Goer (a tradesman) with the advent of alchemy in Görlitz, which craft he had, in turn, learned from a Mainz alchemist. Lull, Geber, Avicenna, and Pseudo-Aquinas (author of the *Aurora consurgens*) all figure prominently in Goer’s discourse. By 1570, the activities (including so-called “white magic”) of the *Secta Paracelsi* had permeated very nearly the entire medical community of Görlitz and numbered among its adherents many of that city’s leading citizens. A crisis was precipitated with the publication in that year of Paracelsus’ *Philosophia ad Athenienses*, whereupon an inquest was convened at the city hall. Among these were Abraham Behem, thought by some to be a relative of Jakob’s (regional orthography was very fluid at the time). He was, in fact, a brother-in-law to Schultz and was influential in acquitting the Paracelsians. Indeed, Schultz himself is thought by some to have been involved personally in the Sect as well

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<sup>16</sup> Paulo Alves Porto, “Michael Sendivogius on Nitre and the Preparation of the Philosophers’ Stone,” *Ambix* 48 (2001): 1-16, p. 2. Although it is beyond the scope of this work, I follow the argument of historian of science Henri Guerlac that Alexander Seton is the author of these works attributed to Sendivogius. See also “Alexander Seton, the Scottish Alchemist,” *Chambers Journal* 26 (1870): 758-768, and Otakar Odložilik, “Thomas Seget: A Scottish Friend of Szymon Szymonowicz,” *Polish Review* 11:1 (1966).

<sup>17</sup> For a fascinating connection between words (and their phonemes) and Böhme’s alchemy, see Steven A. Konopacki’s contribution to the *Linguistica Extranea studia*, 7, the book *The Descent into Words: Jakob Böhme’s Transcendental Linguistics* (Ann Arbor: Karoma Publishers, 1979), pp. 35-60. Raoul Mortley, *From Word to Silence*, 2 vols. (Bonn: Hanstein, 1986), characterizes this phenomenon as “trans-linguistic mysticism.”



because of official statements he released around 1600 when the witchcraft scare had reached its peak. Furthermore, when his son was suffering from life-threatening dysentery about this same time, he employed a “wise woman” to conjure away the spirits. In short, in spite of out-and-out occult activity in the area, “what would have caused alarm elsewhere (only) aroused curiosity in Görlitz.”<sup>18</sup>

### Böhme Heretic?

Because of the presence of the *secta Paracelsi* in Görlitz and the general climate of religious pluralism, many scholars have construed Böhme as a *Schwärmer*<sup>19</sup>, a sect with much in common with the English Ranters, who figured so prominently in the larger Oberlausitz culture. To be sure, members of the regional aristocracy were followers of the quasi-Nestorian reformer, Caspar Schwenckfeld<sup>20</sup>, who originally hailed from the area. As a matter of fact, one of Böhme’s landed patrons, Karl von Ender, was a Schwenckfelder. This group inveighed heavily against a “dumb church of stone and walls,”<sup>21</sup> insisting on a “brotherhood”<sup>22</sup> whose premium was spiritual interiority and camaraderie. Luther had forced the Schwenckfelders out of his reformation movement sometime around 1540. The more orthodox Moravians and Hussites, along with Jews and Muslims, were also in Oberlausitz.

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<sup>18</sup> Weeks, *ibid.*, p. 31.

<sup>19</sup> “Swarmer” was a term coined by Luther to describe the proliferation and heterodoxy of many of these sects.

<sup>20</sup> R. Emmet McLaughlin, *Caspar Schwenckfeld: Reluctant Radical* (New Haven: Yale University Press, 1986), p. 215. See also Selina Gerhard Schulz, *Caspar Schwenckfeld von Ossig* (Norristown, PA: The Schwenckfelder Church, 1946). The North American remnants of the church, curiously enough, are now regarded as orthodox and are a part of the United Church of Christ in Pennsylvania.

<sup>21</sup> *Steinkirche* and *Mauernkirche*, respectively. Luther uses the exact same terms when calling into account the abuses of the institutional church of his day.

<sup>22</sup> *Brudergemeinde*.

The knowledge that heresy was afoot in the region<sup>23</sup> at that time leads some to conclude that Böhme himself was a heretic. One of Böhme's colleagues, Johann Jakob Spaeth, converted to Judaism because of Böhme's emphasis on the Hebrew roots of his philosophical system.<sup>24</sup> This has led some to conclude that the Cabala was one of Böhme's nutritors.<sup>25</sup> All of this notwithstanding, Böhme very steadfastly remained an *evangelisch* Protestant, firmly committed to the principles of Lutheran reform<sup>26</sup>. While he advocated the ultimate reconciliation of the three great Western religions and had nothing but scorn for those who relied merely on outward liturgies and sacraments in an ornate church building, he nevertheless insisted upon a balance of the inward and the outward, private prayer and public liturgy, inward commitment to Christ and outward baptism. Böhme served faithfully on the parish council at Sts. Peter and Paul and supported the ministers of the parish, with one exception to be discussed later.

Through the machinations of the Gnesio-Lutheran *Pastor Primarius* Gregory Richter, the Görlitz city council exiled Böhme from the city as a heretic. This was an unusual move in light of the fact that religions of all stripes coexisted harmoniously in the

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<sup>23</sup> This influence ranged far beyond Oberlausitz. Arthur Versluis in his *Wisdom's Children* traces the very early importation of Böhme's writings into the British Isles and reveals that many leading characters became "Behemenists." These Behemenists later federated with George Fox's Quakers. Fox himself was clearly under Böhme's influence, which fact Rufus Jones carefully delineates in his *Spiritual Reformers in the Seventeenth and Eighteenth Centuries* (New York: MacMillan, 1917).

<sup>24</sup> A biography of Spaeth can be found in Hans Joachim Schoeps, *Philosemitismus im Barock: Religions- und Geistesgeschichtes Untersuchungen* (Tübingen: J. C. B. Mohr, 1952), pp. 61-81.

<sup>25</sup> Gershom G. Scholem, *Major Trends in Jewish Mysticism*, third edition (New York: Schocken Books, 1961), p. 237.

<sup>26</sup> This is the point of Steven A. Haeggmark's unpublished Th. D. dissertation at Luther Northwestern Seminary, *Jakob Böhme and Martin Luther*. Not only does he maintain that Böhme was a committed Lutheran, but he exhaustively examines the writings of both and demonstrates Luther's clear influence on Böhme. Especially fascinating is his exposition of Böhme's theology of the sacraments in the concluding chapter. Johannes Kepler likewise published a treatise on the Eucharist which exhibits striking similarities to Böhme's own Lutheran sacramental theology which contains hints of the Palatine (Calvinist) liturgy.

region. Richter himself was, by all accounts, a self-righteous and pompous man who craved absolute religious authority over the city. Upon his accession to the position of *Pastor Primarius*, he began to expunge Crypto-Calvinist influence from the parish. He accused his predecessor, Martin Moller (who had so influenced young Jakob) of Calvinism and proceeded to excommunicate anyone even remotely exhibiting Calvinistic theological contours.

Within a short period of time subsequent to his installation, Richter proceeded to publicly attack Böhme from the pulpit during a regular Sunday sermon. Following the service in which he had been denounced, Böhme (steadfastly committed to the institutional “outward” church) attempted to privately meet with Richter in order to effect a reconciliation, whereupon Richter flew into a rage and refused to speak with him. Shortly thereafter, Richter initiated excommunication proceedings against him, which forced him to leave the city for a time.

Böhme was to remain in exile until Schultz intervened on his behalf; however, practically, the religious climate remained hostile toward Böhme, forcing him to remain far afield for very nearly the last decade of his life. His wife, Katherina, undertook the family shoemaking business and was soon to become the target of Richter’s rage.

To charge Böhme with heresy is to disregard his unmistakable orthodoxy set forth from the very time when first he began to write in phrases evocative of the Nicene Creed:

I acknowledge a universal God, being a *Unity*, and the primordial power

of good in the universe; self-existent, independent of forms, needing no locality for its existence, immeasurable and not subject to the intellectual comprehension of any being. I acknowledge this power to a *Trinity* in *One*, each of the *Three* being of equal power, being called the Father, the Son, and the Holy Ghost. I acknowledge that this triune principle fills at one and the same time all things; that it has been, and still continues to be, the cause, foundation, and beginning of all things. I believe and acknowledge that the eternal power of this principle caused the existence of the universe; that its power, in a manner comparable to a *breath* or *speech* (the Word, the *Son* or Christ), radiated from its center, and produced the germs out of which grow visible forms, and that in this exhaled Breath or Word (the Logos) is contained the inner heaven and the visible world with all things existing within them.<sup>27</sup>

### Böhme the Visionary

No account of Böhme's life and work can avoid taking into account several key spiritual experiences which supposedly shaped Böhme's philosophical positions.

Historiographies are divided not only in terms of the veracity of these alleged experiences but also divide those who regard the experiences as merely tangential to his philosophical and theological writings from those who regard these experiences as the source of Böhme's writings and pronouncements.

Böhme's aristocratic friend and first biographer, Abraham von Franckenberg records that first of these experiences (which he says is based on an oral transcript) occurred when Böhme was 13 years of age. One day, Franckenberg maintains, Böhme and some friends were tending his father's flock of sheep near the mountain from which Alt Seidenberg derives its name. At this time, he noticed a large opening in the side of the hill which no one had ever observed before. Upon entering, he discovered

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<sup>27</sup> As cited and translated by Franz Hartmann, *The Life and Doctrines of Jacob Böhme: The God-Taught Philosopher* (New York: Macoy, 1929), p. 18. Hartmann, though, attempts to argue that this understanding of the Trinity deflects from Christian orthodoxy. The orthodox understanding of the Trinity he calls "an unintelligible and unnatural monstrosity." It is my contention that Böhme's formulation is no different from that of Luther or John Calvin, to the latter of whom it bears a marked resemblance.

several large pots full of gold coins and intuited a voice to say, “Jakob, you will be great if you only seek My wisdom which is above that of all this gold [perhaps an eponym for his later *Aurora*].” Frightened, Jakob ran from the cave. Later, he and his companions returned to receive the gold and discovered to their dismay that there was no cave to be found. This cave is supposed to have been the synecgorematic for Böhme’s greatest work, the *Mysterium Magnum* of 1622.

The second of these experiences occurred when he was an apprentice cobbler in Alt Seidenberg, shortly after his parents had placed him under the tutelage of a cobbler who would later prove to be “an evil and profane man.” One day, the shoemaker to whom he was apprenticed, took his leave for a business trip, leaving the fourteen-year-old Jakob in charge. Soon, a stranger appeared at the shop door and insisted on purchasing a pair of shoes displayed in the shop window. Jakob initially refused to sell him the footwear since his employer had not granted him permission to conduct business transactions. The gentleman became importunate, whereupon Jakob arbitrarily named a price, hoping that it would be far beyond the stranger’s willingness to pay. To his astonishment, the man purchased the shoes and turned to leave. After he exiting the shop, he summoned Jakob by name to come outside and grasped his hand and “foretold for him a transformation that would amaze ‘the world,’ and counseled him to remain pious.”<sup>28</sup> The strange patron also prophesied great tribulation for the young Boehme and encouraged him to find succour in the Holy Scriptures. The customer departed, leaving behind the astonished young apprentice.

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<sup>28</sup> Weeks, *ibid.*, p. 41.

The third experience is regarded by some scholars as Böhme's most formative. Several years later, as Böhme was working in his shop in Görlitz, incident sunlight was reflected brilliantly in a copper kettle on the hearth. Böhme began to achieve great insight into the "mystery of all things," which experience would later denominate his *Morgenröthe in Aufgang (Aurora)*. Indeed, many of the insights which arose from this experience, later influenced natural philosophers and have come to the attention of historians of science.

While it is beyond the scope of the present work to confirm the nature of these experiences, much of the analysis which follows is predicated upon the proper understanding of the relationship between the rational and experiential in Böhme's thought. There are several promising approaches to this problem, one of which is psychological, which is to be duly considered in this study.<sup>29</sup>

### Böhme's Education

In the many extant historical and philosophical narratives, no researcher has attempted to analyze the role and implication of formal education in Böhme's thought. Some early eighteenth century religious *Schwärmer*, upon learning that Böhme had little formal education, began to hail him as the ideal prophet who received all his knowledge directly from a Divine source. Such enthusiasts revelled in his statement (notoriously quoted out of context) that he "received more from God in a half-hour than in a whole university education."<sup>30</sup> Misquoted declarations such as these caused

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<sup>29</sup> David Walsh, *The Mysticism of Innerworldly Fulfillment: A Study of Jakob Böhme* (Gainesville: University Presses of Florida, 1983), pp. 22-34, and Jon Mills, *The Unconscious Abyss* (Albany: SUNY Press, 2001), pp. 36-52. Also of importance are the early Böhme studies by Carl Jung.

<sup>30</sup> Böhme, *Aurora* 1:5. All Boehme quotations, unless otherwise noted, are taken from the compilation by Franz Hartmann, *ibid.* For an examination of the epistemology of the later Boehme, see Bruce B.

still other thinkers to easily dismiss Böhme as an ill-informed, misguided Ranter with nothing of value to contribute to rational, human knowledge.

A realistic appraisal of Böhme reveals that while indeed he had little beyond a rudimentary formal education and never attended the *Gymnasium*, he nonetheless expended great effort to acquire so-called “mainstream” academic knowledge. This acquisition was evolutionary, as can be seen from a mere cursory comparison of some of his early works such as his first (the *Aurora* of 1612) to his last (the *Clavis* of 1624). While linguists have examined Böhme’s use of language,<sup>31</sup> none have examined him textually and stylistically. Such an analysis reveals a dramatic change in his composition and style; between 1612 and 1624, Böhme curiously become more “academic.”

Much of this change can be attributed to his friendship with Balthasar Walther and the Görlitz Paracelsian physician Tobias Kober. Walther was an alchemist and key leader in the Görlitz *secta Paracelsi*, who also laid many of the foundations of twenty-first century chemistry. He eventually became the director of the chemistry laboratory at Dresden. Walther was greatly spiritually motivated and had traveled extensively in the Far East in search of “spiritual wisdom.” He returned to Görlitz and discovered the object of his quest in Böhme who was right in his own “backyard.” Not only were Walther and Schultz members of the Paracelsians and the O. T. O., both of which were very active in Görlitz, but they were also a part of the local *Convivium Musicum*, a local society comprising aristocratic musical amateurs (including Pastor

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Janz, "Jacob Boehme's Theory of Knowledge in the *Mysterium Magnum*," unpublished Ph.D. diss., University of Waterloo (Canada), 1991.

<sup>31</sup> Konopaki, *ibid.*

Richter and Carl von Ender) who staged public performances. Böhme was also a member of the O. T. O. and evidence suggests that he may have been a part of the musical group as well, probably on recommendation from Walther or von Ender. It was the latter who was to become his anonymous publishing agent and patron.<sup>32</sup>

All of the foregoing is to simply demonstrate the complex sum of intellectual vectors which came to bear upon Böhme. To view him as a misguided simpleton is to err egregiously. One who is not afforded the opportunity for higher education early in life does not prevent him from later informally acquiring a good deal of sophisticated knowledge. For instance, one of the most easily demonstrated effects of Walther upon Böhme, noted above, was Böhme's increasing use of academically current vocabulary. The *Mysterium Magnum* exhibits a 50% increase in the incidence of Latin-derived scientific terms over the *Morgenröthe im Aufgang (Aurora)* of 1612. Walther attempted to streamline Böhme's vocabulary in order to facilitate dialogue with the academic natural scientists of the period. Even the term *Aurora* is itself a later addition; all of Böhme's later works carried Latin titles.<sup>33</sup>

How then must the reader reconcile the occasional Böhmean attack against "university learning?" The answer is the same as that which has already been applied to Böhme's ecclesiastical pronouncements. As has been noted, he decried the exteriorized *Steinkirche*, but only insofar as that exteriorization excluded the development of an interior spirituality. Indeed, the *Steinkirche* is a necessary component of the development of that inwardness through the Sacraments and other

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<sup>32</sup> See, for example, Hans Grunsky, *Jakob Böhme* (Stuttgart: Fr. Frommanns Verlag, 1956), p. 34.

<sup>33</sup> See Konopacki, *ibid.*, as well as Gunter Solms-Roedelheim, *Die Grundvorstellungen Jakob Böhmes und ihre Terminologie* (inaugural dissertation: University of Muenchen, 1960).



public liturgies. He excoriates the quietists in a letter to Balthasar Tilke with the same vivid language.<sup>34</sup> He adds that the sermon, too, is necessary, for in it the Word of God (Jesus Christ) is proclaimed in transforming power. One source reports that he was often seen and ridiculed for lugging huge philosophical and scientific books home from the libraries of his friends. Thus, it should be readily apparent that it was the abuse of institutional religion against which Böhme railed. In like manner, Böhme's epistemic imperative inhered in what he called "the School of the Holy Ghost." His epistemology, like Luther's, was founded on the metaphor of God as Teacher who called forth latent knowledge within the submissive, regenerate human subject. For Böhme, as with Luther, this knowledge was sometimes directly transmitted from God (*Verstand*) but could also come through human teachers and preachers. Direct revelation, though, was subject to critical evaluation. The Lutheran criteria were that it not contravene the written Word of God (Scripture) and that it bear witness to Jesus Christ who is the Word Incarnate. Böhme's "revelations" fully conform to these criteria. Indeed, Luther himself forthrightly proclaimed the "emptiness of human reason" in his denunciations of Scholasticism. Thus, if there were any part of institutional learning to which Böhme objected it would be "learning" whose aim was only admission to an academic degree to the exclusion of personal transformation. On this, he and Luther are consonant:

The understanding is born of God. It is not the product of the schools in which human science is taught. I do not treat intellectual learning with contempt, and if I had attained a more elaborate education, it would surely have been an advantage to me, while my mind received the divine gift; but it pleases God to turn the wisdom of this world into foolishness, and to give His strength to the weak, so that all may bow down before Him.<sup>35</sup>

<sup>34</sup> See Stoudt, *ibid.*, pp. 180-185.

<sup>35</sup> *Forty Questions* 37:20. For a detailed exposition of Boehme's epistemology, see Janz, *ibid.*

### Böhme and Neo-Platonism

The foundational hermeneutical issue upon which the present study is predicated is directly resolvable into an analysis of the question of whether or not Böhme was a Neo-Platonist and if so, to what degree. From the standpoint of twenty-first century astrophysically based cosmology there is the related issue of the possible influence of Aristotelianism in Böhme. Several compelling studies have recently sought to place Böhme within the *Gestalt* of a Platonic-Plotinian ontology.<sup>36</sup> From the perspective of the history of science, such an interpretation does not obtain. As has been recently argued by Hungarian astrophysicist Basarab Nicolescu<sup>37</sup>, Böhme resists neat consignment to either Aristotelianism or Platonism and instead carries traces of both.<sup>38</sup> One of the purposes of the present study is to evaluate these conflicting claims and their possible sources. The figure who emerges most frequently in twentieth century Böhme exegesis is Paul Tillich. Tillich applied his Platonic ontological discourse to the Böhme texts, especially Böhme's doctrine of creation and his concept of *Ungrund*<sup>39</sup>. Tillich readily admits his German Idealist intellectual heritage, especially Schelling and Schopenhauer. He fails, however, to cite the work of Nicolai Hartmann in 1909, whose interpretations of Plato's concepts of being and non-being

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<sup>36</sup> Carlos Gilly, "Das Bekenntnis zur Gnosis von Paracelsus bis auf Schueler Jakob Böhmes," in *From Poimandres to Jakob Böhme: Gnosis, Hermeticism, and the Christian Tradition*, edited by Roelof van der Broek and Cis van Heertum (Bibliotheca Philosophica Hermetica) (Amsterdam: In de Pelikaan, 2000), pp. 385-426. This is also the trajectory which Cyril J. O'Regan traces in two book length studies, *Gnostic Apocalypse: Jakob Böhme's Haunted Narrative* (Albany: SUNY Press, 2002), and *Gnostic Return in Modernity* (Albany: SUNY Press, 2001).

<sup>37</sup> Basarab Nicolescu, *Science, Meaning, and Evolution: The Cosmology of Jakob Böhme*, translated by Rob Baker (New York: Parabola Books, 1991), pp. 53-66.

<sup>38</sup> This is also echoed by Weeks, pp. 62-64.

<sup>39</sup> Paul Tillich, *Systematic Theology I* (Chicago: University of Chicago Press, 1951), pp. 113-114.

form the basis of his own doctrine of the Abyss.<sup>40</sup> These misunderstandings are in turn perpetuated in recent historiographies of science, such as that by Principe and Weeks.<sup>41</sup> Apposite are the remarks of Nicolai Berdyaev:

By the nature of his reasoning on things divine, Böhme is not a Neoplatonic as were most of the Christian mystics. Nor is he a monist nor does he teach emanation. For him there is everywhere only will and opposition. In Böhme, Luther's feeling of evil becomes a metaphysical feeling. His metaphysics is voluntaristic, not intellectual as was that of Greece and the Middle Ages. Böhme's voluntarism is a new principle....Böhme's philosophy of freedom was possible only thanks to this voluntarism.<sup>42</sup>

Gibbons goes farther, plainly stating that:

...The Northern tradition (and Behmenism in particular) tends not to be Neoplatonic in according ontological primacy to the divine will rather than the divine intellect.<sup>43</sup>

Still another researcher comments, based upon her examination of the wider alchemical corpus that “alchemy, ultimately, was not a Neoplatonic body of thought,”<sup>44</sup> if anything, it comprised an equal mixture of Aristotelianism and Neoplatonism.

### Koyré and the Böhme Corpus

Historian of science Alexandre Koyré (1892-1964) early provided a chronological and exegetical scheme of Böhme's works. One pauses to wonder why Koyré's *magnum*

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<sup>40</sup> Nicolai Hartmann, *Platos Logik des Seins* (Giessen: Alfred Töpfelmann, 1909), pp. 146-152.

<sup>41</sup> Lawrence M. Principe and Andrew Weeks, “Jakob Böhme's Divine Substance *Salitter*: its Nature, Origin, and Relationship to Seventeenth Century Scientific Theories,” *BJHS* (1989): 53-61.

<sup>42</sup> Nicolai Berdyaev, *Unground and Freedom*, introduction to Jakob Böhme, *Six Theosophic Points and Other Writings*, translated by John Rolleston Earle (Ann Arbor: University of Michigan Press, 1958), pp. xiii-xiv.

<sup>43</sup> B. J. Gibbons, *Spirituality and the Occult: From the Renaissance to the Modern Age* (London and New York: Routledge, 2001).

<sup>44</sup> Ursula Szulakowska, “The Tree of Aristotle: Images of the Philosopher's Stone and Their Transference in Alchemy from the Fifteenth to the Twentieth Century,” *Ambix* 33 (1986): 55-77, p. 63.

*opus* on Jakob Böhme has never been translated out of its original French. This is even more surprising, given Koyré's stature among historians of science. Koyré's work philosophically analyzes Böhme (whom he considered "a barbarian"<sup>45</sup>), providing an important historiographical framework with which to view Böhme and his contributions to the history of science. Although many scientists and physicians have championed Böhme; until now, none has analytically evaluated the relative merits of his contributions to the early modern scientific enterprise, broadly construed. Over the intervening years since Koyré, few have undertaken a serious evaluation of Böhme, with the notable exceptions of Andrew Weeks,<sup>46</sup> Lawrence Principe,<sup>47</sup> and John Joseph Stoudt.<sup>48</sup> Each of these seeks to situate him socially, historically, and culturally. However, none of these, has sought to evaluate Böhme's significance to the history of science with the exception of Principe's and Weeks's collaborative study of a narrow Böhme subfield.<sup>49</sup>

Koyré writes concerning Böhme's language:

Böhme speaks of everything in relation to everything else. Each of his work is a complete exposition of his whole system; and the repetitions are as frequent as the contradictions....No one-except Paracelsus-speaks a language so barbaric, so clumsy.<sup>50</sup>

Of this "embarrassing and stammering" language, Koyré further notes:

Böhme, as we have said, is one of the most enigmatic thinkers in the universe, and his books are perhaps the most badly written in

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<sup>45</sup> Alexandre Koyré, *La philosophie de Jacob Böhme* (Paris : J. Vrin, 1929), p. 503.

<sup>46</sup> Op.cit.

<sup>47</sup> Lawrence M. Principe and Andrew Weeks, *ibid.*, p. 53.

<sup>48</sup> Op. cit.

<sup>49</sup> Principe and Weeks, *ibid.*

<sup>50</sup> Koyré, *ibid.*, p. xi.

existence....Böhme is an incoherent, poetic language...<sup>51</sup>

Divided into four *livres*, this book addresses many different aspects of Böhme and his thought. In his first book, *L'homme et le milieu*, Koyré seeks to situate Böhme historically, socially and culturally; in particular, Koyré outlines the ecclesiastical climate of Görlitz, the city in which Böhme lived and worked as a cobbler. However, in spite of his attempt to carefully nuance the dynamics of the Crypto-Calvinist controversy in the years preceding Böhme's birth in 1575, Koyré perpetuates the common misconception that Böhme was a schismatic at heart whose conceptual orbit eventually revolved outside the institutional church. He offers as support of this assertion such statements of Jakob's, cited earlier, that "the stone church is no real Church of Jesus Christ." As is documented above, Böhme did indeed make that statement, but it was in the context of a warning that the Gospel was an internal as well external faith. The relationship between exoteric and esoteric is clearly outlined in Böhme's excursus upon the Sacraments which Koyré neglects.

In *Livre II, Première ébauche de la doctrine: L'Aurora naissante*, Koyré begins to explore what he sees as the first of three divisions of Böhme's intellectual and spiritual development ; in other words, the "Early Period," marked by the 1612 advent of Böhme's *Morganroethe (Aurora)*. Koyré evaluates Böhme's writings chronologically. Other evaluations have comprised wide-ranging criticisms of Böhme's concepts and terminology without regard to the work in which the terms are employed, much less the year or context in which they were promulgated.<sup>52</sup> In spite

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<sup>51</sup> Ibid., p. xv.

<sup>52</sup> See, for example, Emile Boutroux (1845-1921), *Historical Studies in Philosophy*, translated by Fred Rothwell (London: Macmillan, 1912), pp. 110-135; Friedrich Wilhelm Joseph von Schelling (1775-1854), *On the History of Modern Philosophy*, translated by Andrew Bowie (Cambridge: University Press, 1994); G. W. F. Hegel, *Vorlesungen ueber die Geschichte der Philosophie*, 3 vols. (Frankfurt am

of his best efforts to construct a viable history of science, Koyré falls prey to that which he so strenuously seeks to avoid when, in the first section, he begins to explore Böhme's seminal concept of *Ungrund*. It is true that Böhme uses the term in the *Morgenröthe (Aurora)* and that it can be equated with Meister Eckhardt's *Abgrund*. However, Koyré exports this definition into Böhme's last great work, the *Mysterium Magnum*. The result is not happy; indeed, subsequent generations of Böhme scholars have unthinkingly perpetuated this misreading ever since Koyré first set forth this definition in his 1929 work.

*Livre III* is the largest and most important section of the Koyré *opus*. Here he surveys the mature, "mid-career" Böhme; the period from roughly 1615-1622. Koyré titles this section, *L'évolution de la pensée de Jacob Böhme, or, Les œuvres de transition*. This period begins with Böhme's *Three Principles of the Divine Essence* and continues through several minor works which culminate in his *Psychologia vera* of 1619, the work which was so important to Jung.<sup>53</sup> Koyré asserts that this was the period in which Böhme's concepts of the Trinity, Creation, Christ, and *Ungrund* all came to maturity. Koyré treats Böhme's *Ungrund* here, using what appears to be the definition of the term from Böhme's early period. Such an argument appears to undercut the value of his carefully maintained chronological outline of Böhme's life and work. He does rightly conclude the argument by upholding Böhme's belief in *creatio ex nihilo, ex aliquo*.

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Main: Suhrkamp, 1971), vol. 3, pp. 91-119; and Wilhelm Windelband, *A History of Philosophy*, translated by James Hayden Tufts (London: Macmillan, 1901).

<sup>53</sup> Carl Georg Jung, *Mysterium Conjunctionis: An Inquiry into the Separation and Synthesis of Psychic Opposites in Alchemy*, translated by R. F. C. Hull (Princeton: Princeton University Press, 1963).

In the final section of the book, *Livre IV, La doctrine de Jacob Böhme*, Koyré explores the *Mysterium Magnum*, Böhme's last major work (a chapter-by-chapter exegetical commentary on Genesis), written in 1622. This section is also the most theological section, exploring his soteriology and pneumatology in both their existential and creational contexts. Koyré ends his work with a short evaluation of the lines of transmission of Böhme's thought up until the early Twentieth Century.

This work is of vital interest and importance to a wide audience, not just Böhme specialists. It is a prime example of an early Twentieth Century intellectual/“internalist” history of science. Koyré treats of historiographical issues and archival sources in an exemplary manner. It is lamentable that this work remains in its French original; it is of such deep merit that it warrants a wider linguistic accessibility.

Paradoxically, given his internalist orientation, Koyré perpetuates some of the more doubtful elements of the Böhme hagiography, of which there are a surprising number extant, even into the twenty-first century. Contemporary historians of science have addressed only a very small number of the extraordinarily complex historical and scientific issues surrounding Böhme of which the present study is only a minimal contribution to the massive amount of scholarship that remains yet to be done.

#### Böhme's Death

Pastor Gregor Richter vigorously opposed Böhme almost from the time of his installation as *Pastor Primarius* at the Sts. Peter and Paul Church in Görlitz. Carl von Ender and Abraham von Franckenberg, noblemen, had early perceived in Böhme a rare intellectual and spiritual perspicuity which they deemed to be of a preternatural origin. Some authorities recount as true that King Charles II of England

upon receiving clandestine English translations of Böhme, declared, “Verily the Holy Ghost is still with men!”<sup>54</sup> Moneyed gentry covertly copied and circulated Böhme’s first work, the *Aurora*, until Richter condemned the work as heretical. Böhme thereafter imposed a decade of silence upon himself, during which time he continued to ply his shoemaker’s craft, reflect, and make notes secretly after hours.

Nevertheless, all manner of folk hungered after Böhme’s thoughts and continued unabatedly to surreptitiously borrow his manuscripts from his shop in order to copy and circulate them.

Böhme became aware of his admirers and cautioned them against contravening religious authority. By early 1624, Balthasar Walther and Christian Bernhard became aware that he was preparing his large commentary on Genesis and the Prologue to the Fourth Gospel, the eponymous *Mysterium Magnum* and began to urge him to find a publisher in spite of the ever-present threat of excommunication. Walther felt that if he were to publish with a Saxon firm, conflict with Görlitz authorities could be deflected. Walther arranged to take a copy of the manuscript with him to the book fair in Leipzig in May. At the same time, Böhme himself left his shop in charge of Katherina and made his way to Dresden. The Elector Prince of Saxony was elated with the commentary and summoned Böhme to the Court in order to make publication and patronage arrangements. Böhme’s handbook to the *Mysterium*, *The Way to Christ*, rolled off the Saxon presses and found its way very quickly back to Görlitz into the hands of an angry Richter. Richter again arranged to have Böhme barred from entering the city, and Böhme was forced to remain in exile.

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<sup>54</sup> Rufus Matthew Jones, *Spiritual Reformers in the Sixteenth and Seventeenth Centuries* (New York: MacMillan, 1914, p. 123).



While in exile in Dresden as a guest of the court alchemist Benedikt Hinckelmann, he suddenly fell ill. His long-time physician friend, Tobias Kober, petitioned the city council to allow Böhme to come home to receive treatment, which request was granted. In the middle of that summer, Richter died. Böhme was then to have surcease from his persecution only to continue to ail until 7 November, when he asked for the Sacrament of Holy Communion. Only upon searching questioning was he allowed to commune. On that night, he asked his son, Tobias, “to open the door to let in more of the heavenly music from the great pipe organ.” He announced that his hour was not yet. At about 6:30 a.m., he asked to be turned in his bed and announced, “Now I am traveling thence into Paradise!” Whereupon he died.

Only upon much persuasion were his family and friends able to procure the services of a clergyman to conduct his burial. It required a threat from the city council to effect this. A marker was erected at the gravesite but was soon vandalized by the Richter-contaminated forces still at work in the city.

In 1638, the first complete works of Böhme were issued by Gichtel, a German expatriate printer in Amsterdam whose specialty was the publication of philosophical and alchemical works. Gichtel ordered the Böhme manuscripts chronologically and collated his shorter works, some of which had not yet been published. The Gichtel edition to this day furnishes the order of these works and indeed provided the foundation for John Sparrow’s influential English translations.<sup>55</sup>

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<sup>55</sup> See Arthur Versluis, *Wisdom's Children* (Albany: SUNY Press, 2000), especially pp. 24-52 which chapter he devotes to Gichtel and his circle in Amsterdam.

## CHAPTER TWO<sup>56</sup>

“Im Wasser lebt der Fisch, die Pflanzen in der Erden,  
Der Vogel in der Luft, die Sonn im Firmament,  
Der Salamander muss mit Feur erhalten werden:  
Und Gottes Herz ist Jakob Böhmens Element.“

(„Fish live in Water, plants in Earth,  
Birds in Air, the Sun in Firmament,  
The Salamander sustains itself with Fire,  
And the Heart of God is Jakob Böhme’s Element.”)

-Angelus Silesius

The object of this chapter is to clarify Jakob Böhme’s concept of *Ungrund*. Principe and Weeks<sup>57</sup> follow Paul Tillich’s understanding and usage of this term as a primordial (eternal) matrix from which God and the created order emanate. Based on a close reading of Böhme’s main works, I argue that this is mistaken. For Jakob Böhme, the central meaning of *Ungrund* is “absolute nothingness.” This reading enables me to clarify the important alchemical term, *Salitter*, as well as to exposit Jakob Böhme’s Doctrine of the Trinity especially as it relates to the created order. All of these terms will reappear in the survey of recent works in the history of science reviewed in chapter three. A brief appendix contrasts Böhme’s concept of absolute nothingness with Eastern concepts of nothingness.

### History of *Creatio ex Nihilo*

In order to understand the gravity and singular importance of Böhme’s work, one must examine the history of *creatio ex nihilo*. We have already seen that Böhme rejects the concept of *creatio ex nihilo* as the alchemists understood it. Philosophers

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<sup>56</sup> Ron Millen, “Occult Qualities in the Scientific Revolution,” in *Religion, Science, and Worldview: Essays in Honor of Richard S. Westfall*, edited by Margaret J. Osler and Paul Lawrence Farber (Cambridge: University Press, 1985), pp. 185-216.

<sup>57</sup> Ibid.

and Biblical scholars agree that the idea itself is a relative latecomer to the theological lexicon. The weight of their opinion supports the hypothesis that the doctrine of *creatio ex nihilo* arose during the first century A.D., primarily as the result of the teaching of the Gnostic, Basilides. Gerhardus May<sup>58</sup> surveys the historical use of the idea and concludes that at no time did its proponents seek to hypostatize *nihil* as either a “relative nothingness” or as an “absolute nothingness,” which is “utterly unknown and unknowable.” This οὐκ οὐ “is sheer nothingness or negation of fact, and is altogether void of ontological status”; “the undialectical negation of being.”<sup>59</sup> Rather than ontologizing the term and engaging in speculation, most contemporary theologians use the phrase *creatio ex nihilo* as a synonym for “total creation.”

Böhme’s term and the concept it represents, enables Western theology, philosophy, and science to avoid emanationism not only by maintaining a distinction between the Creator and the created order but, even more fundamentally, by positing an original absolute nothingness which, although not punctilinear, provides the atotopical space in which God himself comes to be. Emanationism is founded upon the meontological<sup>60</sup> concept of primordial matter in diametrical opposition to any concept of absolute nothingness.

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<sup>58</sup> Ibid. However, Frances Young “*Creatio ex Nihilo: A Context for the Emergence of the Christian Doctrine of Creation*,” *Scottish Journal of Theology* 44 (1991): 139-151, argues that while the concept was never hypostatized, Christian theology very early did interpret creation as occurring from “absolutely nothing.” For a doctrinal interpretation of *creatio ex nihilo*, see Langdon Gilkey, *Maker of Heaven and Earth: The Christian Doctrine of Creation in the Light of Modern Knowledge* (Garden City: Doubleday, 1959, pp. 33-58.

<sup>59</sup> Andrew Thatcher, *The Ontology of Paul Tillich* (Cambridge: University Press, 1978), p. 51.

<sup>60</sup> “Meontological” refers to relative nothingness as contrasted with “oukontological” which means absolute nothingness. See n. 71, below, for more detail.

The traditional Jewish, Christian, and Islamic formulations are as a whole equally culpable of refusing to penetrate beyond an original boundary. Philosophers and theologians representing these religions assert the Doctrine of *Creatio ex nihilo*,<sup>61</sup> to be sure. However, they refuse to accept that there ever was an “absolute nothingness.” In other words, God created *ex nihilo*, but there never was a time when God himself was not. Indeed, this conceptual framework constitutes the bulk of St. Thomas’ *via tertia*.<sup>62</sup>

### Meister Eckhardt

Scholars attempt to link Böhme’s concept of *Ungrund* with Meister Eckhardt’s theology of *Urgrund*.<sup>63</sup> However, Böhme was familiar with the Eckhardtian tradition<sup>64</sup> and could have used such a term had he intended to convey this concept. *Urgrund* means “first ground” and would correspond to *das Nichts* as set forth by Böhme as the “Nothing and All, or Eternal Freedom (*die ewige Freiheit*).”

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<sup>61</sup> James Noel Hubler, “*Creatio ex Nihilo*: Matter, Creation, and the Body in Classical and Christian Philosophy through Aquinas,” unpublished Ph. D. diss., University of Pennsylvania, 1997, writing from the perspective of the Church of Jesus Christ of Latter Day Saints (Mormonism) accents that Tatian was the first to explicitly write in terms of *creatio ex nihilo*. While one can adduce endless examples of scholars from *ex nihilo* and primordial matter ideological camps, respectively, this still skirts the philosophical issue raised as to whether or not there was at one point “absolutely nothing.” The Mormon perspective is shared by many contemporary mainstream Jewish, Christian, and Islamic thinkers. However, it should be noted that these do not represent the historic theological and philosophical positions of these mainstream religions. Cf. Gilkey, *ibid*.

<sup>62</sup> See William Lane Craig, *The Cosmological Argument from Plato to Leibniz* (New York: Barnes and Noble, 1980), p. 189. Craig sees the significance of the *via tertia* in its necessitarian argument, not (as does the present author) in that portion of the *via tertia* which argues that if there ever were a time when absolutely nothing “was”, then there would be absolute nothingness now. It is impossible even for God to spring forth from “absolute nothingness.” The only contemporary writer who adopts the “absolute nothingness” approach is Hugh Ross, n. 84 *infra*. I contend that Böhme is attempting to establish precisely that there was a “time” when there was absolutely nothing.

<sup>63</sup> See, for example, Bernard McGinn, *The Mystical Thought of Meister Eckhart: The Man from Whom God Hid Nothing* (New York: Crossroad, 2001), Weeks, *ibid.*, and O’Regan, *ibid*.

<sup>64</sup> Hans Lassen Martensen, *Jakob Böhme*, trans. Stephen Hobhouse (London: Rockliffe, 1948), pp. 87-96. Martensen was Bishop (Metropolitan) of the Church of Denmark and was Kierkegaard’s mentor. Martensen himself had Hegel for his *Doktorvater*. This work endures as one of the best introductions to the life and thought of Jakob Böhme.

About this *Ungrund*, which is a non-metaphysized, non-dialectical groundless foundation, Böhme writes:

Seeking the first will is an ungroundedness, to be regarded as an eternal nothing. We recognize it to be like a mirror, wherein one sees his own image; like a life, and yet it is no life, but a figure of life and of the image belonging to life. Thus we recognize the eternal Ungrund out of nature to be like a mirror. For it is like an eye which sees, and yet conducts nothing in the seeing wherewith it sees; for seeing is without essence... We are able then to recognize that the eternal Ungrund out of nature is a will, like an eye wherein nature is hidden; like a hidden fire that burns not, which exists and also exists not. It is not a spirit, but a form of spirit, like the reflection in the mirror. For all the form of a spirit is seen in the reflection or in the mirror, and yet there is nothing which the eye or mirror sees; but its seeing is in itself, for there is nothing before it that were deeper there.<sup>65</sup>

#### *Creatio ex Nihilo*

Principe and Weeks<sup>66</sup> (following Paul Tillich) suggest that Böhme rejected the traditional Christian concept of *creatio ex nihilo*<sup>67</sup> and adopted the standard alchemical cosmogony which views *Salitter* as the “prime matter” out of which God created the world, a process known as “emanation.” Paul Tillich claims to derive his theology of *creatio ex nihilo* from Böhme’s concept of *Ungrund*. In turn, Tillich’s readings of Böhme and the Greeks were influenced by his mentor, Nicolai Hartmann<sup>68</sup>, himself a Böhme scholar. Tillich’s definition and use of Böhme’s *Ungrund* continue to influence current Böhme scholarship. Principe and Weeks

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<sup>65</sup> Jakob Böhme, *Six Theosophical Points*, trans. John Rolleston Earle (Ann Arbor: University of Michigan Press, 1965), p. 12.

<sup>66</sup> Lawrence M. Principe and Andrew Weeks, *ibid.*, p. 59.

<sup>67</sup> Gerhardus May, *Creatio ex Nihilo* (Philadelphia: Fortress, 1994) and Frances Young, “*Creatio Ex Nihilo*: A Context for the Emergence of the Christian Doctrine of Creation,” *Scottish Journal of Theology* 44 (1991): 139-151, pp. 150-151, and Gilkey, *ibid.*

<sup>68</sup> Nicolai Hartmann, *Platos Logik des Seins* (Giessen: Alfred Toepfelmann (J. Ricker), 1909), pp. 146-152.

apparently adopt Tillich's interpretation of Böhme as well. By so doing, they perpetuate Tillich's misinterpretation of Böhme's *Ungrund*, at one point even confusing it with Eckhardt's *Urgrund*.

Even if one were to attempt to argue that the *Aurora* and other of his early works support emanationism, Böhme's later works do not support this claim. Many of these early works themselves contain passages which unimpeachably dictate an *ex nihilo* reading. "Eternal Nature, however negatively characterizable, brings about essence without which nothing can exist (*ohne Wesen nicht bestehen mag*), and without which manifestation cannot occur."<sup>69</sup> A close reading of the later corpus reveals that Böhme maintains the traditional concept of *creatio ex nihilo* because his *Ungrund*, the *Mysterium Magnum*, describes "absolute nothingness" (as defined below) out of which God created everything. He unequivocally states that "we cannot truly say that this world has been made out of something;"<sup>70</sup> therefore, neither *Ungrund* nor *Salitter* can indicate a creation out of pre-existent matter. In many ways, Böhme's concept of *Ungrund*, which "introduces and generates itself into a Ground,"<sup>71</sup> is the sum of his theology of creation.

Some scholars claim that Jakob Böhme's idea of *Ungrund* is synonymous with procreation (the creation of the physical order out of pre-existent matter).<sup>72</sup>

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<sup>69</sup> Cyril J. O'Regan, *Gnostic Apocalypse: Jacob Böhme's Haunted Narrative* (Albany: SUNY Press, 2002), p. 39. This is commentary on a passage found in both the 1619 *De Tribus Principiis*, 2:1, as well as the 1620 *De Incarnatione verbi*.

<sup>70</sup> *De rerum sign.* 14:7.

<sup>71</sup> *Clavis* 1:58. See Arlene Miller, "The Theologies of Luther and Boehme in Light of their Genesis Commentaries," *Harvard Theological Review* 63 (1970): 261-303.

<sup>72</sup> Hartmann, *ibid.*, Principe and Weeks, *ibid.*, and O'Regan, *ibid.* Evidently this line of reasoning enjoys a long lineage which can be traced to Freiherr. See Charler Arthur Muses, *Dionysius Andreas*

Apparently, Paul Tillich's appropriation of the term influenced Principe and Weeks' interpretation of Böhme's *Ungrund*. Andrew Thatcher provides this insight into Tillich's understanding of *Ungrund*, based on the classical Greek definitions of "nothingness":

Plato's οὐκ οὐν and μὴ οὐν are said (in Paul Tillich's writings, *vh*) to refer respectively to absolute and relative non-being. Οὐκ οὐν is "utterly unknown and unknowable." It is sheer nothingness or negation of fact, and is altogether void of ontological status. Μὴ οὐν is more difficult to elaborate. It can mean the principle of difference or otherness, in the sense that a particular entity is what it is and *not* otherwise. The best discussion of non-being in Plato is in the *Sophist* (237-259) where μὴ οὐν is described as "otherness" or "difference."<sup>73</sup>

Tillich claims at the outset of his *Systematic Theology* that Böhme's *Ungrund* describes a nothingness that is absolute, as outlined above. Later, he states that *Ungrund*, which for Tillich becomes "the Ground and Abyss of Being,"<sup>74</sup> is "only" relative, as described by the Greek μὴ οὐν.<sup>75</sup> Still later, he adopts an *Ungrund* (which

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*Freher: An Inquiry into the Work of a Fundamental Contributor to the Philosophical Tradition of Jakob Böhme*, unpublished Ph.D. dissertation, Columbia University, 1951.

<sup>73</sup> Andrew Thatcher, *The Ontology of Paul Tillich* (Cambridge: University Press, 1978), pp. 49-70. See also John P. Dourley, "Jakob Böhme and Paul Tillich on Trinity and God: Similarities and Differences," *Religious Studies* 31 (1995): 429-445, as well as Otto Jespersen, *Negation in English and Other Languages* (København: Andr. Fred. Hoest und Soen, 1917), pp. 1-11, 148-150. Note as well the chapter, "Musician in the Concert of God's Joy: Jakob Böhme on Ground and Unground," in Ernest Benjamin Koenker, *Great Dialecticians* (Minneapolis: Augsburg, 1971), pp. 53-64. On page 60, Koenker states (based on a mis-translation of one of Böhme's later works, *Six Theosophic Points*):

Böhme's "No-thing," which is the power of being, must be distinguished from the non-dialectical Nothing, the pure non-being, which the Greek language denominated οὐκ οὐν. The οὐκ οὐν is the idea of not-existing. It is "nothing" in the most complete sense of the term in the sense of *creation ex nihilo*, since the Greek negative οὐ is the particle which summarily negates in contrast to the qualified denial of the weaker negative μὴ. This οὐκ οὐν is a non-being existing outside of God and bears no relationship to being. It is the unqualified negation of being, complete absence of being. What Böhme speaks of is the μὴ οὐν, the "No-thing" which stands in a dialectical relation to being. This dark, primal, unconditioned abyss "sees" and "discovers itself" as conditioned being.

<sup>74</sup> This is a highly debated aspect of Tillich's theology and has generated an extensive literature. Some early examples include Dorothy Emmet, "The Ground of Being," *Journal of Theological Studies* 15 (1964): 280-292 and J. Heywood Thomas, "Some Comments on Tillich's Doctrine of Creation," *Scottish Journal of Theology* 14 (1961): 113-118.

<sup>75</sup> This is discussed extensively in John Hick, *Evil and the God of Love* (Philadelphia: Westminster, 1965), pp. 48-53, 188-193.

he confuses with Eckhardt's *Urgrund*) which occupies an intermediate position between absolute and relative nothingness.

Böhme's conceptual uniqueness lies in the fact that he has coined the word *Ungrund* to describe non-dialectical, absolute nothingness out of which the physical order was created by Divine fiat and that nothingness out of which God Himself comes to be in a process known as theogony.<sup>76</sup> In this way, Böhme maintains a distinction between Creator and creation (transcendence) and, at the same time, provides for a philosophy of an evolutionary becoming of and in God Himself. This confluence of emanationism and creation has often been confused as is apparent in the foregoing analysis of Paul Tillich. These confusions arise from the failure to maintain a distinction between first and second order creations in Böhme's thought. For him, creation is two-fold. First, there is a creation/theogony *ex nihilo*. Secondly, there is a second order in creation by which the physical order comes to be through a combined spiritual and physical process. The agent by which God through Christ accomplishes this second-order creation is the seventh form, the *Salitter*, which is at once both physical and spiritual. While *Salitter* is a notion rooted in pre-modern alchemy, it was understood and accepted by seventeenth century academic chemistry as well, thereby linking two different modes of understanding. For this reason, the next section will conclude with a brief examination of the ways in which *Salitter*, a substance, was confused with Böhme's *Ungrund*, which is "absolute nothingness."

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<sup>76</sup> Emmet, *ibid.*, p. 282.



### A Response to Principe and Weeks

Lawrence M. Principe and Andrew Weeks provide valuable insight into the nature and significance of the Jakob Böhme's theology and philosophy by focusing primarily on his concept of *Salitter*, an idea which he develops in his first major published work, *Moergenroethe im Aufgang (Aurora)* or "Dawning" in 1612. It is well to examine this topic because "it has been (until now) dismissed as an example of Böhme's ignorance of proper alchemical terminology."<sup>77</sup>

Principe and Weeks provide five main arguments for the alchemical significance of Böhme's notion of *Salitter*, which he introduces in his first book, the *Aurora* (1612). Their first three arguments are fully substantiated by direct appeal to the Böhme corpus. The last two; that *Salitter* is the "prime matter out of which God created the world," and that *Salitter* "embodies the Divine forces,"<sup>78</sup> can not be supported. In this section, I trace the sources of their misunderstanding and claim another interpretation of *Salitter* based on a direct reading of Böhme.

Their article provides the "standard" chemical interpretation of *Salitter* and discuss its manufacture and use by the academic chemists of Böhme's day. Since the substance was regarded as highly important by both alchemy and the academy at that time, the authors claim that the idea of *Salitter* is an important connecting point between "pre-modern" alchemy and seventeenth (and eighteenth) century academic chemistry. While *Salitter* is a highly significant Böhmean idea, Böhme introduced a far more comprehensive notion in his last major work, the *Mysterium Magnum*. By *Mysterium*

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<sup>77</sup> Lawrence M. Principe and Andrew Weeks, "Jakob Böhme's Divine Substance *Salitter*: its Nature, Origin, and Relationship to Seventeenth Century Scientific Theories," *BJHS* 22 (1989): 53-61, p. 53.

<sup>78</sup> *Ibid.*

*Magnum*, Böhme means the *Ungrund*. In the preceding chapter, I have explored the meaning and uniqueness of the concept of *Ungrund* through an analysis of inconsistencies in Paul Tillich's interpretation of Böhme's *Ungrund*, the interpretation many Böhme scholars in the twentieth century accepted, apparently including Principe and Weeks. Having done so, I suggested that Böhme's *Ungrund* is unique and could provide a more significant link than *Salitter* between alchemy and seventeenth (and eighteenth) century academic "natural philosophy." In the next chapter I will examine Isaac Newton and his "philosopher's mercury" as a primary example of this connection.

#### The Chemical Definition of *Salitter*

*Salitter* is a term commonly found in alchemical literature, especially of Böhme's time. The physical substance itself is nothing more than  $\text{KNO}_3$ , termed a "halogen" by alchemists and ranked alongside other "halogens," as well as mercury and sulphur, which were thought to exhibit similar chemical characteristics. *Salitter* was widely known at this time as a naturally occurring precipitate at Lake Neusiedler, near Vienna. The self-styled "orthodox" physical chemists ("natural philosophers") were beginning to exhibit great interest in the halogens. Indeed, some of these chemists, such as Böhme's friend, Balthasar Walther, experimented with both the alchemical as well as what modern chemists would call the "chemical properties" of the substance.<sup>79</sup> Furthermore, Principe and Weeks argue, in the post-*Aurora* years, "the equivalent of *Salitter* remained a focal point in the discussion." In short, both alchemists and "academic" chemists regarded the substance as highly important. Thus, Principe and Weeks, upon exploring aspects of Böhmean historiography, conclude that Böhme's interest in both dimensions of the substance positions him as an important link

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<sup>79</sup> Ibid., p. 56.

between pre-modern “science” and modern understandings of a mechanistically construed universe by virtue of his unique notion of *Salitter* which established him as “an early participant in the 17th Century discussion of nitre.”<sup>80</sup>

Although I take issue with the authors concerning certain aspects of their interpretation of the role and nature of *Salitter* in Böhme’s thought, I conclude that their estimation of its importance is quite correct. However, my main variance is with their interpretation of *Salitter* as the most significant Böhmean link between the pre-modern and modern sciences. I suggest that historians should not focus solely upon Böhme’s first work, *Aurora* (1612) in which he introduces the concept, but also upon his later works which exhibit more linguistic precision and clarity of expression; especially his last major work, *Mysterium Magnum* (1624), in which the term *Salitter* does not appear at all. Rather, Böhme equates his eponymous *Mysterium Magnum* with the concept of *Ungrund*. Principe and Weeks, however, do note the absence of *Salitter* from his later works:

After *Aurora*, Böhme continued to see nature as a conflation of animating forces, but he dropped or de-emphasized the term *Salitter*. In his final great treatise, the Divine substance [nothing] resurfaced under the name, “*Mysterium Magnum*”-a term derived from Paracelsian natural philosophy.<sup>81</sup>

This is a misreading of Böhme. Böhme very clearly states in *Mysterium Magnum* that this “Great Mystery” is not *Salitter*, but rather *Ungrund*, a totally different concept, which I have set forth in the preceding chapter.

#### The Alchemy of *Salitter*

Having briefly examined Principe and Weeks’ understanding of the Böhmean concept of *Salitter* as a physical substance, I now analyze their understanding of Böhme’s

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<sup>80</sup> Ibid., p. 55.

<sup>81</sup> Ibid., p. 55.

estimation of *Salitter* as an alchemical substance. First, they note, after “reflecting on the properties of nitre, [Böhme] could have concluded that it was a clear likeness of the divine power”<sup>82</sup> because of the way in which he understands alchemy and because of the company he kept with the known alchemists of Görlitz. However, for Böhme, while *Salitter* may point to certain aspects of God’s wisdom and power, the concept is not a Divine likeness or analogy. Böhme tells us that God dwells beyond analogy and transcends the “axiom of contradiction.”<sup>83</sup> In fact, God is the *Coincidentia Oppositorum*, the Coincidence of Opposites, who admits of no analogy, over against the Thomists. Principe and Weeks ascribe Böhme’s Doctrine of God as the Coincidence of Opposites to the Copernican Görlitz Paracelsians among whom they number Böhme.

*Salitter* is alchemically significant in the Principe and Weeks study because, as an alchemical halogen, it is “the corporeal determinacy of things, with their origin or ‘seed,’ and with the powers of fertility in them.” Secondly, according to their reading, *Salitter* is “a matrix of forces that generate life and awareness: ‘The dry (herb), sour, and sweet qualities are the *Salitter* which pertains to the corpus, from which the corpus is formed.”<sup>84</sup>

Of special note is third aspect of the alchemical substance *Salitter*. It is seen as “the presence of divine omnipotence and serving as the vehicle of God’s power.” This serves to “preserve (the) order of a decentralized (heliocentric) cosmos.” While it is true that Böhme adopted heliocentrism (likely by way of Schultz), stating that “the

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<sup>82</sup> Ibid., p. 60.

<sup>83</sup> Peter Erb in Jakob Böhme, *The Way to Christ*, trans. Peter Erb (New York: Paulist, 1978), p. 23.

<sup>84</sup> Principe and Weeks, *ibid.*, p. 54.

earth revolves and turns with the other planets as in a wheel around the sun,”<sup>85</sup>

evidence does not suggest that he subscribed to the Melancthonian theology of “ubiquity.”<sup>86</sup>

Principe and Weeks suggest that Böhme rejected the traditional Christian concept of *creatio ex nihilo*<sup>87</sup> and adopts the standard alchemical cosmogony which views *Salitter* as the “prime matter” out of which God created the world, a process known as “emanation.” While Böhme’s first major work, the *Aurora*, uses the alchemical term *Salitter*, Principe and Weeks’ adducing his usage of the term as supporting emanationism is incorrect, based upon a careful reading of the ways in which the term is developed in his later works. As was demonstrated in this chapter, Böhme used terms also employed by emanationists but in a completely new fashion. As was also stated earlier in the chapter, the key contributor to Principe and Weeks’ misunderstanding of Böhme is Paul Tillich’s theology of *creatio ex nihilo* which he based upon a misapplication of Böhme’s terminology. Neither *Ungrund* nor *Salitter* indicate a first creation out of pre-existent, eternal matter. As was also set forth in this chapter, Böhme’s definition of *Ungrund* is the sum of his theology of creation.

Although *Salitter* is a notion whose origin is pre-modern alchemy, it was understood and accepted by seventeenth century academic chemistry as well, thereby linking two different modes of understanding. Even though Principe and Weeks suggest that *Salitter* links pre-modern alchemy with early modern natural philosophy, I have

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<sup>85</sup> Jakob Böhme, *Moergenroethe im Aufgang (Aurora)*, in *Saemtliche Schriften*, 11 vols., ed. Will-Erich Peuckert (Stuttgart-Bad Canstatt: Fr. Frommanns Verlag, 1955), vol. 1, p. 308.

<sup>86</sup> Barker, *ibid.* For another interpretation of the theological concept of ubiquity, see Heinrich Bornkamm, *Luther’s World of Thought* (St. Louis: Concordia, 1955), pp. 87-115.

<sup>87</sup> Gerhardus May, *Creatio Ex Nihilo* (Philadelphia: Fortress, 1994) and Frances Young, *ibid.*, pp. 150-151.

argued above that *Ungrund*, a more comprehensive (over-arching) concept provides an even more significant connection between pre-modern and modern science, according to twenty-first century understandings of those terms.

Even though evidence supports Principe and Weeks' understanding of *Salitter* as a conceptual bridge, Böhme's philosophy of the *Ungrund* is a more comprehensive or over-arching concept which affords a still more significant connection between pre-modern natural philosophy and modern science, according to twenty-first century understandings of those terms.

#### The *Ungrund* Debate

Böhme scholar Ernest Koenker differentiates between the two understandings of “nothingness,” covered by the two Greek terms, οὐκ οὐν and μή οὐν. Many Böhme students have missed Böhme's significance to the thought of his century by equating (as does Tillich) his coined term, *Ungrund*, with the Greek μή οὐν, which is commonly translated as “relative nothingness.”

Dionysius Andreas Freherr (1649-1728), a German emigrant from Nuremberg and a disciple of Böhme who lived in London for much of his career, is the first to claim that Böhme's cosmology did not teach the Doctrine of Creation *ex nihilo* but, instead, a modified version of emanationism in which creation is seen as having arisen *ex Deo*.<sup>88</sup> Freherr's exegesis (which equated Böhme's *creatio ex Deo* with emanationism) has determined Boehmian hermeneutical contours until the present. A

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<sup>88</sup> See Muses, *ibid.*, and O'Regan, *ibid.* In a similar vein is the autobiographical account of Behmenist Professor Evelyn B. Feiring, *Concatenation: Enoch's Prophecy Fulfilled* (Long Beach and Santa Barbara: Rocky Mountain, 1973), pp. 85-105.

close reading of the texts, though (especially the *Mysterium Magnum*), makes quite clear that emanationism misrepresents Böhme's own position. Earlier thinkers such as St. Thomas Aquinas, use the identical term *ex Deo* as a synonym for *creatio ex nihilo*. Contrary to Freher's representation, the heavily Latinized *Mysterium Magnum* uses the technical phrase *ex Deo* in exactly the way, as a synonym for *creation ex nihilo*:

God has created the holy angels, not by means of any substance foreign to His own self, but out of his own self, out of His power and eternal wisdom.<sup>89</sup>

Thus, even the early Böhme, as did Thomas, indicate by the phrase *ex Deo* not emanationism but *creatio ex nihilo*:

The nothing hungers after the something, and this hunger is the desire...For the desire has nothing that it is able to conceive. it conceives only itself, and draws itself to itself...and brings itself to itself...and brings itself from Abyss to Byss (*vom Ungrunde in Grund*)...and yet remains a nothing.<sup>90</sup>

Note that Böhme at times uses heavily Scholastic language:

God had no other material out of which to create anything, except His own essence. But God is a spirit, intangible, and having neither beginning nor end. His depth and greatness is everything. A spirit does nothing except that it rises, and stirs, and moves, and gives birth to its own self. In its birth there are especially three forms-bitterness, astringency, and heat; but in these three forms there is neither a first, nor a second, nor a third; but they are all three only one, and each one gives birth to the other and to the third.<sup>91</sup>

Böhme launches still clearer invectives against emanationism:

It is said that God is everything, that He is in heaven and earth, and also in the external world, and such an assertion is true in a certain sense; because everything originates in and from God. But of what use is such a doctrine, which is not a religion? Such a doctrine was

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<sup>89</sup> *Aurora* 4:26.

<sup>90</sup> *MM* 3:5, as cited by Stoudt, *ibid.*, p. 200. This "desire" is the theme of Brazilian Behmenist mathematician Lydio Machado de Mello, *Tratado de teologia matematica* (Belo Horizonte: University de Minas Gerais, 1965).

<sup>91</sup> *Principles* 1:3.

accepted by the devil, who wanted to be manifest and powerful in everything.<sup>92</sup>

The external world is not God, and will not be God in all eternity. The world is merely a state of existence wherein God is manifesting Himself.<sup>93</sup>

Böhme coined the word *Ungrund* (*contra* Principe and Weeks), to establish that the nothingness to which he was referring was οὐκ ον, “absolute negation,” by which usage he stands unique in the thought of his era. Had Böhme meant to use *Ungrund* as a synonym for a “relative nothingness” on the order of Hegel’s much later dialectical system or the “relative nothingness” posited by some later exponents of *creatio ex nihilo*, his system would resolve into nothing more than an Eastern pantheism.<sup>94</sup> This mistaken understanding of Böhme’s *Ungrund* prompted Coleridge<sup>95</sup> in a later time to reluctantly eschew Böhme, as did Swiss Jesuit theologian, Hans Urs von Balthasar when he rejected Böhme’s theogony.<sup>96</sup> Balthasar’s rejection of Böhme in particular was predicated upon his apparently accepting Tillich’s use of Böhme’s *Ungrund* to indicate a “relative nothingness.” Tillich subsequently incorporated this interpretation into his systematic theology as “the God beyond God.” Tillich’s system is, indeed, pantheistic for the very reason

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<sup>92</sup> Tilke 2:140.

<sup>93</sup> Stiefel 2:316.

<sup>94</sup> Robert H. Paslick, “From Nothingness to Nothingness: The Nature and Destiny of the Self in Boehme and Nishitani,” *Eastern Buddhist* 30 (1997): 13-31, and Hans Waldenfels, *Absolute Nothingness: Foundations for a Buddhist-Christian Dialogue*, trans. J. W. Heisig (New York: Paulist, 1978), pp. 61-65.

<sup>95</sup> Thomas McFarland, *Coleridge and the Pantheist Tradition* (Oxford: Clarendon Press, 1969), pp. 325-332.

<sup>96</sup> Raymond Gawronski, S. J., *Word and Silence: Hans Urs von Balthasar and the Spiritual Encounter Between East and West* (Edinburgh: T. and T. Clark, 1995), pp. 34-38.



that his Trinity ultimately resolves into this “relative nothingness” which is known in Eastern religion as *Atman*.<sup>97</sup>

### Definitions of *Ungrund*

The radicality of Jakob Böhme’s thought emerges when he rejects the concept of *creatio ex nihilo* as a relative nothingness. “Relative nothingness,” as Neville<sup>98</sup> and other ontologists have defined it, is a state that enables the “determination of being”; in other words, it stands in dialectical relationship to “Being”<sup>99</sup>. Thus this radicality emerges in Böhme’s rejecting dialectical (relative, ontological) non-being and, in its stead, placing absolute (sheer) nothingness<sup>100</sup>, which had been rejected heretofore by

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<sup>97</sup> Paslick, *ibid.*

<sup>98</sup> Robert Cummings Neville, *God the Creator: On the Transcendence and Presence of God* (Chicago: University of Chicago Press, 1968), pp. 135-138.

<sup>99</sup> This is the lexical paradigm adopted by Jean-Paul Sartre, *Being and Nothingness*, translated by Hazel Barnes (New York: Washington Square Press, 1956), p. 49. Sartre makes clear that by “nothingness,” he and existentialism in general mean to indicate a “relative nothingness” because “absolute nothingness” (here he adopts Henri Bergson’s argument) would be absurd because it would not allow for determinacy. Speaking of ancient and early modern thinkers (such as Böhme), Sartre writes:

If adopting for the moment the point of view of naive cosmogonies, we tried to ask ourselves what “was there” before a world existed, and if we replied “nothing,” we would be forced to recognize that this “before” like this “nothing” is in effect retroactive. What we deny *today*, we who are established in being, is what there was of being before this being. Negation here springs from a consciousness which is turned back toward the beginning. If we remove from this original emptiness its characteristic of being empty *of this world* and of every whole taking the form of a world, as well as its characteristic of *before*, which presupposes an *after*, then the very negation disappears, giving way to a total indetermination which it would be impossible to conceive, even and especially as a nothingness.

Cyril J. O’Regan, *The Heterodox Hegel* (Albany: SUNY Press, 1994) and *Jakob Böhme’s Doctrine of Creation: A Meontological Metaphysics* (Unpublished M. A. Thesis, University College, Dublin, 1978), deploys the Sartrean hermeneutic to contend that absurdity constitutes impossibility. Hence, because total indetermination (οὐκ οὐ) is impossible to conceive, his argument runs, Böhme must have intended a “relative nothingness” as his *Ungrund*. This, however, is to impose a Sartrean conceptual framework upon a text which clearly indicates “absolute nothingness.” The same type of debate is raging over the Gnostic *Gospel of Truth*, a key constituent of the Nag Hammadi MSS.

<sup>100</sup> Even though anachronistic historians think it absurd, absolute nothingness was nonetheless the subject of endless academic discourse, none more so than in the *sophismata* on the Mediaeval tradition. See the exhaustive study by Marcia L. Colish, “Carolingian Debates over *Nihil* and *Tenebrae*: A Study in Theological Method,” *Speculum* 59 (1984): 757-795. Astrophysicist Hugh Ross, *The Creator and the Cosmos*, third edition (Colorado Springs: Navpress, 2001) targeting a popular audience, exhibits

both Eastern and Western philosophy as irrelevant and useless. In order to clearly communicate the concept, Böhme coins the term *Ungrund*. Although the Grimm brothers<sup>101</sup> (and, more recently, Principe and Weeks,<sup>102</sup>) trace the term to Paracelsus, in whose scientific school Böhme can be classed, the idea behind the word is totally original to Böhme and “it is absolutely unprecedented in the whole of human thought.”<sup>103</sup> Lucas defines the term:<sup>104</sup>

*Ungrund*, m., want of foundation, groundlessness, want of truth; falsity;

Mit-, groundlessly; falsely; v. *Abgrund*, *Abgründe* (pl.)

By contrast, here is *Abgrund*:<sup>105</sup>

*Abgrund*, m., abyss, gulf, pit, precipice, chasm; mar. an eddy of water, Whirlpool, a race.

Here is the definition of *Urgrund*, Eckhardt’s term with which it is often confused:<sup>106</sup>

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the currency of the debate for the twenty-first century in what seems to be a reformulation of the *Via Tertia* of St. Thomas Aquinas. He writes on page 130:

Physicists, unlike philosophers, use five different definitions of *nothing* in their models of creation. The accuracy of the declaration that God created the cosmos out of “nothing” depends on which definition of *nothing* the statement implies. These are the five: (1) lack of matter, (2) lack of matter and energy, (3) lack of matter, energy, and the four large expanding space-time dimensions of the universe, (4) lack of matter, energy, and all 10 space-time dimensions of the universe, and (5) lack of any entity, being, existence, dimensionality, activity, or substance whatever. The Bible (Hebrews 11:3) says God created the universe we detect and measure from that which no human can detect and measure. In other words, the universe came from *nothing* as defined in number 4 above.

<sup>101</sup> Jakob Grimm and Wilhelm Grimm, *Deutsches Woerterbuch*, 16 vols. (Leipzig: Verlag von S. Hirzel, 1854), XI.

<sup>102</sup> Principe and Weeks, *ibid.*

<sup>103</sup> Harald Høffding, *A History of Modern Philosophy*, 2 vols., trans. B. E. Meyer (London: Unwin, 1924), I, p. 78. See also the panegyric in Robert F. Brown, *The Later Philosophy of Schelling: The Influence of Böhme on the Works of 1809-1815* (Lewisburg: Bucknell University Press, 1977): “Schelling, much moved by Böhme’s spirit, believed that he was a miracle in human history.”

<sup>104</sup> Newton Ivory Lucas, *Englisch-Deutsches und Deutsch-Englisches Woerterbuch*, 2 vols. (Bremen: Schuenemann, 1868), II, p. 2069.

<sup>105</sup> *Ibid.*, p. 19.

<sup>106</sup> *Ibid.*, p. 2101.

*Urgrund*, m., primitive foundation; primeval cause, author.

Berdiaev enthuses that this *Ungrund* is “a pre-ontic freedom.” Confirming the reading of Böhme suggested in this chapter, Berdiaev states:

The only conception of freedom which I found satisfactory was that of Jakob Böhme...I identified *Ungrund* with primordial freedom, which precedes all ontological determination. According to Böhme, this freedom is in God; it is the inmost mysterious principle of divine life; whereas I conceived it to be outside God, preferring, as I do, not to speak of the apophatic mystery of God’s life.”<sup>107</sup>

Previous thinkers approached the notion of non-being from a variety of standpoints. One thinks immediately of Meister Eckhardt’s *Urgrund* (“first ground”) and the later *Abgrund*, neither of which bears any relationship to Böhme’s term although some contemporary students of esoteric religious thought have attempted to equate the two in their readings of Böhme. In this regard, Katherine Lampert states that Böhme’s *Ungrund* “means ‘groundlessness’ rather than ‘primary ground’ (*Urgrund*) and suggests the indeterminate nature of freedom.”<sup>108</sup>

From the textual evidence here provided, Böhme firmly adheres to the doctrine of *creatio ex nihilo*, using the words *Nichts* and *Ungrund* as equivalents to the “absolute nothingness,” which is the οὐκ οὐν of the Greeks and the *omnino nihil* of the Schoolmen. However, he goes a step further and creates a first order theogony<sup>109</sup> *ex nihilo*. In his theogony, he attempts to punctuate the “beginning” of the eternal God

<sup>107</sup> Nicolai Berdiaev, *Dream and Reality: An Essay in Autobiography*, trans. Katherine Lampert (New York: MacMillan, 1951), p. 56. Berdiaev’s essay is a commentary on Boehme’s attempt to reconcile free will and predestination. In fine, Boehme locates absolute freedom outside God, for without absolute freedom God Himself could not be. Or, more bluntly, without the coexistence of evil there is no God, for without freedom there is neither the possibility for evil nor absolute good (God). Berdiaev, along with many Idealists, interpreted the *Ungrund* as freedom itself. Hence, freedom is indeterminate.

<sup>108</sup> Berdiaev, *ibid.*, p. 99 n. 1.

<sup>109</sup> Cyril J. O’Regan, thesis, *ibid.*

who “has no beginning in time; He has an eternal beginning and an eternal end.”<sup>110</sup>

To propose his theogony, Böhme admits, is all the more challenging because “the Godhead is an eternal band, which cannot perish. It generates itself from eternity to eternity, and the first therein is always the last, and the last the first.”<sup>111</sup>

### The Divine Forces

Some scholars<sup>112</sup> equate Böhme’s *Salitter* with his *Ungrund* on the grounds “it embodies the Divine forces.” Berdiaev, for example, adduces Böhme’s later writings in support of their syncategorematic treatment of these terms, claiming that he “continued to see nature as a conflation of animating forces,” in spite of the fact that succeeding works tended to downplay the *Salitter* which, admittedly, figured largely in the *Aurora*. Evidence suggests the contrary. Böhme’s last major work, the *Mysterium Magnum*, states that the Divine forces arise in the depths of the absolute and paradoxical negation which is the *Ungrund*. Indeed, not only does the *Ungrund* provide for Böhme an atypical space in which occurs the Coincidence of Opposites,<sup>113</sup> but it also provides the means by which emanationism and causal theories of the universe find their expression in one unique and comprehensive system of thought. In other words, the God who dwells beyond analogy and the created order should be simultaneously together and apart from the created order.<sup>114</sup>

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<sup>110</sup> *Rerum sign.* 3:1.

<sup>111</sup> *Drei Prinz.* 7:14.

<sup>112</sup> Principe and Weeks, *ibid.*, Franz Hartmann, *ibid.*, and David Walsh, *The Mysticism of Innerworldly Fulfillment* (Gainesville: University Presses of Florida, 1983).

<sup>113</sup> The term *coincidentia oppositorum* was apparently borrowed from Nicholas von Kues, the 15<sup>th</sup> Century theologian and mathematician. See Winfried Zeller’s introduction in Jakob Boehme, *The Way to Christ*, trans. Peter Erb (New York: Paulist, 1978), p. xiv, for a thorough exposition of the process by which these opposites arise.

<sup>114</sup> Stoudt, *ibid.*, p. 86.

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Correctly understood, Böhme's concept of the the *Ungrund* makes his Doctrine of the Trinity (*Dreifaltigkeit*) all the more unique in that the *Ungrund* is separated from the Father, thus saving Böhme from pantheism. Even in the classical Jewish, Christian, and Islamic formulations of *creatio ex nihilo*, there is not just "nothing" but, rather, God is seen as having been present eternally.<sup>115</sup> The only other possible cosmology conceives the universe as having been eternally existent, as is held by contemporary non-theistic thinkers like Stephen Hawking, and such metaphysicians of antiquity as Lucretius and the antecedent Epicureans. However, this view ultimately leaves us with the Heideggerian dilemma, "Why is there something and not nothing?" In one grand system, Böhme subsumes the ultimate concerns of both schools of thought by claiming the antecedent presence-absence of the *Ungrund*.

The Godhead, in Böhme's thinking, is grounded in the relative, the  $\mu\eta\ \text{ov}$ .<sup>116</sup>

Contemporary philosophers, based upon their readings of Böhme, assert that modern existentialism, to its detriment, is not anti-ontological but should be, to remain viable.<sup>117</sup> With careful deliberation and great irony, Berdiaev states that "Ontology is the disastrous philosophy of nothing at all. The objective world is the product of estrangement."<sup>118</sup>

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<sup>115</sup> Hugh Ross, *ibid.*

<sup>116</sup> Stoudt, *ibid.*, p. 199.

<sup>117</sup> Paul Tillich, "Existential Philosophy," *Journal of the History of Ideas*, 1 (1944): 44 ff.

<sup>118</sup> Berdiaev, *ibid.* Later on, Kant would base his underlying assumption that ontology is a transcendental illusion upon this concept of Böhme's Original reality, for Böhme, is creative act and freedom, not being. According to Stoudt's interpretation, the Doctrine of Divine Providence (predestination) as commonly understood is simply pantheism in disguise, according to Stoudt, *ibid.*, p. 286.

The Principe and Weeks study affords a good model by which to differentiate between Böhme's understanding of the Godhead as *Dreifaltigkeit*, more typical of Mediaeval Roman Catholic thinkers than of later Protestantism which uses the standard *Trinität*. This is a distinction that Böhme scholarship has failed to make. *Dreifaltigkeit*, literally translated, means "three-foldedness." As such, it represents a dynamic understanding of Trinity-in-action as distinct from the more acceptable, Reformation term, *Trinität*. *Trinität* literally translates as "trinity," and, as such, is reflective of a more static, ontologically based understanding of the term. German theologians from the Reformation to the present have used the ontological term, *Trinität*, in much the same way as the Latins used the term *Trinitate* to indicate God *in se*.<sup>119</sup> Böhme's object is quite clear:

Here we have not yet cause to say that God is three persons, but he is threefold in His eternal evolution. He gives birth to Himself in Trinity; and in this eternal unfoldment He is nevertheless an only being, neither Father, nor Son, nor Spirit, but only the eternal life or God. The Trinity will become comprehensible in His eternal revelation only when he reveals himself by means of eternal nature-that is to say, in the light by means of the fire.<sup>120</sup>

As the eminent Shakespeare and Böhme scholar, George Wilson Knight, explains:

The trinity is both one and three, three and one, asserting the dynamic interaction of unity and multiplicity....When we, the sons of God, are severed from the our Father and the sacred life, there are three Gods in the Trinity; but when we find union and a new harmony, there is then a oneness. The Trinity is accordingly creative, and the number three is the number of creation, as when two elements are married to create a third.<sup>121</sup>

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<sup>119</sup> See John P. Dourley, "Jacob Böhme and Paul Tillich on Trinity and God: Similarities and Differences," *Religious Studies* 31 (1995): 429-445.

<sup>120</sup> *MM* 7:9-12.

<sup>121</sup> George Wilson Knight, *The Christian Renaissance*, revised edition (London: Methuen, 1962), p. 244.

Furthermore, he says, “love or mystic sight or simple joy of any kind is the resolver: a spark leaping antagonistic poles, ablaze in the dark; lightning that hovers and is gone.”<sup>122</sup>

Compare this commentary upon Böhme’s Trinitarian ontotheological narrative with that of Hans Blumenberg:

The Trinitarian hypostases remain processes of pure inwardness, and on account of the identical nature of the three persons—that is, their equal eternity—no story can be told, either of what led to this generation or spiration.<sup>123</sup>

Böhme called the Trinity, *der Spiegel der Natur*, “the mirror of nature.” In the *Mysterium Magnum*, he exegetes Genesis 1:1 through a Johannine lens:

For “in the beginning” means the eternal beginning in the will of the *Ungrund* for a *Grund*, that is, for a divine apprehension, since the will apprehends itself in a center for foundation. For the will apprehends itself in the one power, and breathes itself forth.... This amounts to saying the Word was in the beginning with God and was God himself. The will is the beginning and is called God the Father, and he apprehends himself in power and is called the Son.<sup>124</sup>

He goes on to define his terms more precisely in that “the threefold Spirit (*dieser dreifache Geist*) is one essence and thus no essence (*kein Wesen ist*).”<sup>125</sup> The *Mysterium Magnum* itself, a major focus of this present study, is itself based on a Trinitarian pattern. The created order is Trinitarian for Böhme just as it is for Kepler:

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<sup>122</sup> Ibid.

<sup>123</sup> Hans Blumenberg, *Work on Myth*, trans. Robert M. Wallace (Cambridge: MIT Press, 1985), p.260.

<sup>124</sup> *Mysterium Magnum* 2:1. This same passage also appears in the *De Electione Gratiae* 2:7-11, which appeared at about the same time as the *MM* (1623).

<sup>125</sup> *MM* 1:5-6.

“No being can be born unless it has within itself the fiery triangle, *i. e.*, the first three natural forms.”<sup>126</sup>

Furthermore:

The light and the power of the sun disclose the mysteries of the external world by the production and growth of various beings. Likewise God, representing the eternal Sun, or the one eternal and only Good, would not reveal Himself without the presence of His eternal spiritual nature, wherein alone he can manifest His power. Only when the power of God becomes differentiated and relatively conscious, so that there are individual powers to wrestle with each other during their love-play, will be opened in Him the great and immeasurable fire of love by means of the forthcoming of the Holy Trinity.<sup>127</sup>

In sum:

We Christians say that God is threefold, but one in essence, and this is misunderstood by the ignorant as well as by the half learned, for God is not a person except in Christ. He is an eternally generating power and the kingdom with all beings.<sup>128</sup>

The Trinity is the impetus for something to arise from (absolutely) nothing:

We cannot tell how it happened that that which stood eternally in the essentiality of God entered into motion, because there is nothing that could have caused God to move, and the will of God is eternal and unchangeable. We can only say that the *Three* was desirous of having children of its own kind.<sup>129</sup>

Here Böhme’s use of “nothing” (*das Nichts*) is peculiarly significant. In this late work, it is to be noted that *das Nichts* is used in the same sense as the Parmenidean οὐκ οὐν (“absolute nothingness”) elucidated in the preceding sections. One may even

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<sup>126</sup> *Gnadenwahl* 2:38.

<sup>127</sup> *Die Gnadenwahl* 2:28.

<sup>128</sup> *MM* 7:5

<sup>129</sup> *Forty Questions* 1:273.



observe that Böhme is using the lexical formula of the Thomistic *via tertia*, in which absolute nothingness is asserted to be impossible for if it were possible and, indeed, had there been a “time” when there “was” absolute nothingness, there would still be absolute nothingness now.<sup>130</sup> The quintessence of Böhme’s use of *das Nichts* is that there was indeed a time when there was “absolutely nothing,” but that this absolute nothingness had been overcome inexplicably:

How it came to happen that God stirred to produce creation, while He Himself is unchangeable, cannot be discovered, and an attempt to do so would merely produce a confusion of mind.<sup>131</sup>

In other words, “absolute nothingness” does occupy a place of prime importance in the Böhme cosmos, not only in its first manifestation in the term *Ungrund*, but also in its incidental appearance under the form of *das Nichts* which appears throughout the Böhme corpus but none nowhere so insistently as in the later works. Böhme considers of God in His unity prior to his Trinitarian differentiation:

God is eternal unity, the immeasurable one good, having nothing before or after it that could possibly endow it with something or move it. It is without any inclinations or qualities, without any beginning in time, within itself only one. It is purity itself, without any contact; requiring neither place nor locality for its dwelling, being at once outside of and within the world. Into its depth no thought can penetrate, neither can its greatness be expressed in numbers, for it is infinity itself. All that can be counted or measured is natural or figurative, but the unity of God cannot be defined. It is everything, and has been recognized as good, and is called “good,” because it is eternal mildness and beneficence

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<sup>130</sup> Conor Cunningham, *Genealogy of Nihilism: Philosophies of Nothing and the Difference of Theology* (London and New York: Routledge, 2002), p. 250. Cunningham perceptively analyzes the contributions of Badiou and others to Postmodern nihilism. For Badiou, he observes, “absolute nothingness” is to be equated with “absolute beginning.” (“Badiou absolutizes beginnings or, more accurately, the beginning, which is the indeterminate.”) Furthermore, he notes, contemporary atheology is possible only through a radical understanding of *creation ex nihilo*, the ultimate *ouk-ontotheology*. However, nihilism in the end begins to view the something as nothing and thereby essentially invalidates itself (p. 165, n. 50). It, like the ontotheology it rejects, refuses “to think the thought of thought (239).”

<sup>131</sup> *Menschwerdung* 1:2,5.

within the sensitivity of nature and creature, the sweetest love. For the Unity in its aspect as good issues out of itself, introducing itself into willing and moving, and the willing and moving experiences the mildness of the unity. This is the foundation of love in the unity, of which Moses says, "The Lord our God, is an holy God, and there is no other besides Him."<sup>132</sup>

Not only is the Trinity the jewel in the crown of Böhme's philosophy of the Godhead but is also the very impetus that enables something to come forth from absolutely nothing. One may very well set forth a doctrine of *creatio ex nihilo* but one is still left with the unanswered challenge to develop a theogony. This Böhme has also done, proposing the ultimate challenge; the eternal generation of the eternal Godhead from absolutely nothing for which love provides the means and the differentiation of the Trinity the medium.

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<sup>132</sup> *Theos. Questions* 1:1.

### CHAPTER THREE

Ex rerum Causis Supremum noscere Causam.

-Robert Boyle

#### INTRODUCTION

In the concluding section of the previous chapter, I explored the implications of the alchemical doctrine of *Salitter* as studied by Principe and Weeks in connection with Jakob Böhme. *Salitter* (Böhme's "seventh form"), it was found, serves as a transition, a bridge, between the three-fold physical world and the Divine Trinity; between the physical and the spiritual. For Newton, the seventh form appears in the form of the "philosopher's mercury," and related concepts are to be found in Boyle.

The object of this chapter is to evaluate the claim that Sir Isaac Newton and Robert Boyle, English natural philosophers, were influenced in their selection of research subjects by their own personal adherence to the natural philosophy articulated in the Böhme corpus. These claims were first set forth by Böhme students ranging from William Law (1686-1761) with which the studies of A. J. Snow<sup>133</sup> and Karl Popp<sup>134</sup> are consonant to those by twenty-first century scholars such as Brian Gibbons.<sup>135</sup> The topics to be examined as having been influenced by Jakob Böhme are Newton's Doctrine of *Creatio ex nihilo*<sup>136</sup> (including his vacuum experiments which I claim are

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<sup>133</sup> A(dolph) J(udah) Snow, *Matter and Gravity in Newton's Physical Philosophy* (Oxford: Oxford University Press, 1926), pp. 192-194.

<sup>134</sup> Karl Robert Popp, *Jakob Böhme und Isaac Newton* (Leipzig: S. Hirzel, 1935).

<sup>135</sup> Brian J. Gibbons, *Spirituality and the Occult: From the Renaissance to the Modern Age* (London: Routledge, 2001), and his *Gender in Mystical and Occult Thought: Behmenism and Its Development in England* (Cambridge: Cambridge University Press, 1996).

<sup>136</sup> See Pierre Kerszberg, "The Cosmological Question in Newton's Science," *Osiris* 2 (1986): 69-106 as well as Matt Goldish, "Newton's *Of the Church*: Its Contents and Implications," in *Newton and Religion: Context, Nature, and Influence*, eds. James E. Force and Richard H. Popkin, 1999, pp. 145-164, pp. 159-162. Goldish specifically addresses Newton's Doctrine of *Creatio ex nihilo* on pp. 162-164. In his *Judaism in the Theology of Sir Isaac Newton* (Leiden: E. J. Brill, 1998), Goldish types Cartesians (*contra* the prevailing view) as "Cabbalists, Gnostics, and Platonists." Background is

founded thereupon), Newton's optical experiments and consequent theories of colour, and Boyle's vacuum experiments. In addition, Newton's and Boyle's appropriation and use of the alchemical term *salitter* will be examined. This chapter will conclude by demonstrating the viability of the Snow and Popp hypothesis that Newton and Boyle were indeed heavily influenced by Böhme. Furthermore, I will seek to demonstrate direct links from Böhme to Newton and Boyle in contrast to the Snow and Popp studies which champion only an indirect influence.

#### Sir Isaac Newton's Behmenism<sup>137</sup>

Historians of science in the last two decades have increasingly acknowledged the significance of alchemy in the thought and scientific production of Sir Isaac Newton. Historiography began to shift away from a strictly mechanical interpretation of Newton with the publication of Frances Yates' much-criticized *The Rosicrucian Enlightenment*. Shortly thereafter, one historian of science (Betty Jo Dobbs) published the results of her examination of the Newton manuscripts that set forth the clear influence of alchemy upon Newton and his work. In fact, her work casts him as an alchemist; her rhetoric indicates that it was to this alchemy that much of Newton's "revolutionary" discoveries are owed.<sup>138</sup>

These two works represent a Newtonian alchemical renaissance. Earlier in the twentieth century, Louis More asserted that Newton's mechanics was neither more

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provided in John Henry, *The Scientific Revolution and the Origins of Modern Science* (New York: St. Martin's Press), 1997, as well as in Frank Edward Manuel, *The Religion of Isaac Newton* (Oxford: Clarendon, 1974).

<sup>137</sup> This was the term by which the many English-speaking followers of Boehme were known.

<sup>138</sup> Betty Jo Teeter Dobbs, *The Foundations of Newton's Alchemy, or "The Hunting of the Greene Lyon,"* (Cambridge and New York: Cambridge University Press, 1975) and Frances Amelia Yates, *The Rosicrucian Enlightenment* (London and New York: Routledge, 1973).

nor less than a mathematicization of Böhme's cosmology.<sup>139</sup> One scholar, Herbert MacLachlan<sup>140</sup>, responded to this challenge with an attempted refutation. His refutation is two-fold. First, he says, the only "extensive passages of Böhme which Newton copied are found in his *Theological Notebook*." Secondly, he states, no Böhme works are to be found in any of the extant Newton library catalogues. MacLachlan's challenge can be answered readily. Newton's theological writings were written over the course of his entire career. The bulk of those manuscripts MacLachlan chose were from Newton's late career; hence, MacLachlan's canon excluded earlier notes in which Behmenist notes clearly appear. It would only be natural for Newton to transcribe influential Böhme passages into his *Theological Notebooks*. As a matter of fact, much shorter transcriptions of the works of other authors who had greater influence upon Newton than did Böhme are to be found in these MSS. Alchemical quotations are to be found here in abundance and many of these works occupied a prominent place in Newton's personal library. Sometimes materials owned by a particular reader are unread while other items of great importance are borrowed and/or transcribed by the reader. William Law, who first set forth these claims, surmised that Newton either borrowed the works or that they have yet to be discovered. Obviously Newton did not need to own a work to have access to it. Some possible sources of access will be mentioned below.

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<sup>139</sup> Louis Trenchard More, *Isaac Newton: A Biography* (New York: Charles Scribner's Sons, 1934), p 50. This same claim is now advanced by George Mpitsos, "Newton's Heifer: From Metaphor to Mechanism," invited letter to The Society for Chaos Theory in Psychology and the Life Sciences, a neurophysiologist and Basarab Nicolescu, *Science, Meaning, and Evolution*, trans. Rob Baker (New York: Parabola Books, 1991), a theoretical physicist from Hungary now with CIRET in Paris.

<sup>140</sup> *Sir Isaac Newton: Theological Manuscripts*, Ed. H(erbert) MacLachlan (Liverpool: University Press, 1950).

Sir David Brewster adduces evidence that at one point Böhme's works, almost certainly the Sparrow editions, were in Newton's library even though the only surviving Böhme material in his library consists of transcriptions in his personal notes.<sup>141</sup> For the sake of the argument presented here, I contend that personal transcriptions count for more than mere possession of material in one's library. Furthermore, the subsequent analysis of Böhme's works as contrasted and compared with those of Newton underscore the striking similarities of the topics addressed and the terms under which those topics are treated. The parallels carry the most convincing proofs of Böhme's influence upon Newton.

It is clear that Newton employs alchemical, Paracelsian terminology. Much more attention to the Böhme found in the theological MSS is warranted on the basis of their influence upon such other Newton works as the *Trinity Notebooks*. No studies to date have examined parallels between Newton's thoughts on "indivisiblism, the void, and vacuum" which occupy the bulk of the *Trinity Notebooks*, and Böhme's own doctrine of *das Nichts*, of which we shall treat here. There is also nearly contemporary evidence for Newton's interest in Böhme, which is considered next.

#### William Law

The Rev. William Law (1686-1781), who later became the Archbishop of Canterbury, was throughout much of his ministry an ardent Behmenist. His *A Serious Call to A Devout and Holy Christian Life*, a devotional treatise, heavily shaped the theology of Anglican John Wesley and the Methodist movement that was soon to arise from Wesley's labours. Wesley was later to reject Law on this same ground, that he was a

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<sup>141</sup> Sir David Brewster, *The Life of Sir Isaac Newton*, 2 vol. (London: Gall and Inglis, 1881), 2: 371.

Behmenist; which fact caused Wesley to relegate Law and his followers to Rantism.<sup>142</sup> In his biography of William Law, Christopher Walton asserts that "Sir Isaac did but reduce to a mathematical form the central principles of nature revealed in Behmen."<sup>143</sup> Law provides some curiously compelling evidence in the form of a widely-quoted letter that he wrote to the Scottish physician and mystic, Dr. George Cheyne. Cheyne had earlier evidently challenged him to support his claim that Newton was influenced by Böhme, to which Law replied:

Worthy Sir, I had the favour of yours of the 31<sup>st</sup> March (1742). It is but lately come into my hands, and (I) must answer in haste, being just entering upon a journey.

When Sir Isaac Newton died, there were found among his papers large abstracts out of J. Behmen's works written in his own hand. This I have from undoubted authority; as also that, in the former part of his life, he was led into the search for the Philosopher's Tincture from the same author.

My vouchers are names well known and of great esteem with you. It is evidently plain that all the Sir I. Has said of the universality, nature and effects of attraction (and) of the three first laws of nature, was not only said but proved in its true and deepest ground by J. B. in his Three First Properties of Eternal Nature, and from thence they are derived into this Temporal Outbirth. This, added to the information above, is, I think, a sufficient warrant for (my) having said the Sir I. could have referred to Behmen for the true ground, etc.

Law next refers to Marsay, Bertot, Bourignon (a great influence on Robert Boyle), Poiret, and the Philadelphia Society. Then he continues:

I am in too much haste to say anything, but in this broken way. I am, with great sincerity of respect and esteem, Your most obliged and obedient servant,  
W. Law.

P. S. From the authority above I can assure you that Sir Isaac was formerly so deep in J. B., that he, together with one Dr. (Humphrey) Newton, his relation, set up furnaces and for several months were at work in quest of the Tincture, purely from what they conceived from him. It is no wonder, therefore, that attraction, with its two inseparable properties, which make in J. B. the First

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<sup>142</sup> See Peter Malekin, "William Law and John Wesley," *Studia Neophilologia* 37 (1965): 190-198. J. Brazier Green, *John Wesley and William Law* (London: Epworth/Barton, 1945), relates that Wesley repudiated Böhme in his *Open Letter* of 1756. J. H. Overton ably defends vindicates Böhme from Wesley's attack in his *Life of William Law*.

<sup>143</sup> Christopher Walton, *Memorials of William Law* (London: Walton, 1854), p. 84.

Three Properties of Eternal Nature, should come to be the grand foundation of Newtonian philosophy.

If you have any commands for me of any kind, a letter must be directed to me at Cliffe, near Oundle, in Northamptonshire.

It was my conjecture that Sir Isaac declared so openly at first his total ignorance of the source, or cause, of attraction, to prevent all suspicion of his being led into it from Behmen's doctrine. It is plain he knew the deep ground which B. had given of it. No one from Behmen can know anything of the Tincture, or the means or possibility of coming at it, without knowing and believing, as Behmen does, the ground of universal attraction. And therefore Sir Isaac's silence and ignorance of this ground must have been affected, and for certain reasons which can now only be guessed at.<sup>144</sup>

Law continued by boldly connecting Newton's theories of force, attraction, and repulsion to Böhme:

The illustrious Sir *Isaac Newton* when he wrote his *Principia*, and publish'd to the World his great Doctrine of *Attraction*, and those *Laws of Nature* by which the *Planets* began, and continue to move in their Orbits, could have told the World, that the *true and infallible* Ground of what he there advanced, was to be found in the *teutonick Theosopher*, in his *three first Properties of Eternal Nature*; he could have told them, that he had been a *diligent Reader* of that wonderful Author, that he made large extracts out of him...<sup>145</sup>

In May 1743, Law related to a mutual friend of Dr. Cheyne upon the latter's decease:

That he had sent Dr. Cheyne his reasons for the passage in his late book about Sir Isaac Newton, who had shut himself up with one Dr. (Humphrey) Newton for three months in order to search for the Philosopher's Stone from J. B., that his attraction and the first three laws of motion were from Behmen.<sup>146</sup>

Christopher Oetinger (1702-1782), a chemist and natural philosopher on the Continent, advanced a similar claim for Böhme's influence upon Newton. One might

<sup>144</sup> As transcribed by Stephen Hobhouse, "Isaac Newton and Jacob Böhme," *Philosophia* (Belgrade) 2 (1937): 25-54, pp. 28-29. This is also the topic explored by Arthur Wormhoudt, "Newton's Natural Philosophy in the Behmenist Works of William Law," *JHI* 10 (1949): 411-429. However, Wormhoudt offers no convincing archival counter-evidence against Law's claims.

<sup>145</sup> William Law, *An Appeal To all that Doubt, or Disbelieve the Truths of the Gospel, Whether they be Deists, Arians, Socinians, or Nominal Christians. In which, the true Grounds and Reasons of the whole Christian Faith and Life are plainly and fully demonstrated. To which are added Some Animadversions upon Dr. Trap's late Reply* (London: Printed for W. Innys, at the West-End of St. Paul's, 1742), p. 314.

<sup>146</sup> John Byrom, *Journal* 2: 364.



be inclined to dismiss his testimony as the blind panegyric of a Behmenist were it not for the fact that Oetinger was a chief agent for the dissemination of Newtonianism across German-speaking Europe. He enjoyed a celebrated reputation as a mathematician and scientist in his own right in addition to his being known as an ardent Böhme supporter<sup>147</sup>.

#### Stephen Hobhouse and Louis More

Böhme scholar, Stephen Hobhouse, an English Quaker working in the first half of the twentieth century, early adopted a stance against Böhme's having exerted any appreciable effect upon Newton. This is surprising, considering that he was the most well-known Böhme scholar of the twentieth century. He was also responsible for reviving interest in William Law through his extensive study of archival material. Louis T. More notes that "after considerable correspondence and conversation with (More), Hobhouse was allowed to state that he has altered his view expressed in his biography as to the influence of Böhme upon Newton."<sup>148</sup> This was reflected in his changed opinions related in his second edition of William Law. While acknowledging the importance of Hobhouse's work on Law as a source for later writers on the connection between Böhme and Newton, I will present evidence contradicting his largely negative appraisal of their relation.

More observes through a Quaker-influenced hermeneutic:

Another book, the *Life of Jacob Böhme* by Durand Hotham, is known to have received the careful attention of Newton. The mystical doctrines of Böhme had a great influence in England; his aversion to theological disputes and to

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<sup>147</sup> See Ernst Benz, "Die Naturtheologie Friedrich Christoph Oetingers," in *Epochen der Naturmystik: Hermetische Tradition im wissenschaftliche Fortschritt*, eds. Antoine Faivre and Rolf Christian Zimmermann (Ser: Mystical Approaches to Nature) (Berlin: Erich Schmidt Verlag, 1979), pp. 256-277.

<sup>148</sup> *Selected Mystical Writings of William Law*, second ed., ed. Stephen Hobhouse (New York: Harper, 1948), pp. 397-422.

formal services seemed a haven of rest to those wearied by the controversies between the ritualistic Roman Catholic and English Churches, and bleak Puritanism,-a refuge where one could worship in seclusion, directed by the dictates of the inner light.<sup>149</sup>

More concludes:

There was a mystical strain in (Newton's) character which has been quite overlooked. It showed itself not only in his persistent reading of the esoteric formulae of the alchemists, but also in his sympathy for the philosophy of the Cambridge Platonists and in his extended interpretations of the prophecies of Daniel and of the Revelation. Nor did his enquiry stop at these bounds, there is evidence that he studied the writings of Jacob Böhme and became, more or less, a follower of the mystical shoemaker.<sup>150</sup>

### Evidences of Newton's Behmenism

There are three categories of evidence for Jakob Böhme's influence upon Newton.

First is the evidence for direct (historical) influence, such as that exerted upon Newton by known Behmenists such as Henry More and the Cambridge Platonists. The second category of evidence includes correspondence and related documents which exhibit a connection between Newton and these persons. The third category of evidence is the catalogue of Newton's personal library, especially as it relates to alchemy and Puritanism. This catalogue indexes works which Newton did not personally possess but which nonetheless enjoyed Newton's attention as demonstrated by his painstaking transcriptions. The final evidence for Behmenist influence upon Newton will be seen when we undertake to compare selected passages from Newton with passages from Böhme, noting the similarities in syntax and vocabulary. McGuire and Tamny have set forth a similar type of study comparing and contrasting Newton and Charleton.<sup>151</sup>

<sup>149</sup> Louis Trenchard More, *Isaac Newton: A Biography* (New York: Charles Scribner's Sons, 1934), p. 25.

<sup>150</sup> *Ibid.*, pp. 158-159.

<sup>151</sup> McGuire and Tamny, *ibid.*

The first Behmenist influences upon Newton came very early. Newton attended grammar school at Grantham, a noted center of Puritan activity. Henry Vaughan (ordained in 1647) and John Starkey were successive ministers of the parish church there. Henry Vaughan was a well-known enthusiastic supporter of Böhmean theology and natural philosophy and was a staunch Presbyterian Calvinist. He was succeeded by John Starkey<sup>152</sup> about whom Richard Baxter, the Puritan divine, waxed eloquent in a written tribute.<sup>153</sup> Both of these men were to lose their parish settlements at the Restoration. As was the case with most Puritan clergy of the time, they had both been educated at Cambridge and subsequently licensed and later ordained by the Presbytery. Cambridge at this time was not only the leading Presbyterian institution, but it was also home to the so-called “Cambridge Platonists,” chief among whom were Henry More (1614-1687). More was known widely as one of the leading Behmenists of his time and exerted profound influence upon a whole generation of young clergy.<sup>154</sup> During Newton’s Grantham interval, Francis Trigge, the Presbyterian incumbent in the adjoining Welborn parish donated a great number of books for the use of the pupils of Grantham School and the wider community. Among these were without doubt works of alchemists and, very likely, some of the early Sparrow editions of Böhme. Trigge was himself a respectable natural philosopher, having penned a notable monograph upon agriculture and soil conservation. Newton may therefore have had access to Böhme’s works as early as

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<sup>152</sup> See William Newman and Lawrence M. Principe, *Alchemy Tried in the Fire: Starkey, Boyle, and the Fate of Helmontian Chymistry* (Chicago: University Press, 2002).

<sup>153</sup> Richard Baxter, *The Reformed Pastor* (Edinburgh: Banner of Truth, 1982 reprint).

<sup>154</sup> See Sarah Hutton, “Henry More and Jakob Böhme,” in *Henry More (1614-1687) Tercentenary Studies* (Dordrecht: Kluwer, 1990), pp. 157-171, p. 163.

his school days at Grantham and was certainly in contact with Behmenists during this period.

#### Newton's Library

A survey of Newton's extant library reveals a vast assemblage of alchemical works. These include Hermes Trismegistus (sic, including extensive notes and marginalia), *Index Chemicus: An Elaborate Subject-Index to the Literature of Alchemy*, *Liber Mercuriorum Corporum*, Michael Maier's *Symbola Aurea Mensae Duodecim Nationum* of 1617 (a Böhme nutritor), *Manna: A Tract on Alchemy*, *Mercury: Notes on the Preparation of Philosophical Mercury*, *De Metallorum Metamorphosi*, *Regulae seu canones aliquot philosophici de lapie philosophico* (attributed to Paracelsus with supplements by Maier and the Böhmean Basil Valentine), *Several Questions Concerning the Philosopher's Stone*, *Sendivogius Explained*, *Separations* (contains references to Raymundus, Maria Ferrar, Ibn Sina, Sendivogius, Flammel, and others), Basil Valentine's *Currus Triumphalis Antimonii*, Valentine's *Mystery of the Microcosm*, and Rehe's *Opera Chymica*. These are just a few examples. There are also works by many other alchemists, including Yarworth.<sup>155</sup>

#### John Sparrow<sup>156</sup>

Isaac Newton had no cognizance of German and was therefore reliant upon translations for access to Böhme's thought. However, by the time of the Trinity Notebooks, the Sparrow translations of 1654 (based upon the Gichtel editions printed

<sup>155</sup> *Sir Isaac Newton: A Catalogue of Manuscripts and Papers collected and published on microfilm by Chadwyck-Healey*, edited by Peter Jones (Cambridge: Chadwyck-Healey, 1991), pp. 42-50. See also J. E. McGuire, "Newton and the *Corpus Hermeticum*," in *Hermeticism and the Scientific Revolution*, eds. Robert S. Westman and J. E. McGuire (Los Angeles: UCLA Press, 1977).

<sup>156</sup> Serge Hutin, *Le Disciples anglais de Jacob Böhme* (Paris: J. Vrin, 1960). Hutin sets forth Sparrow's influence upon Law and thence upon Newton, especially the latter's theories of gravity rooted in Böhme's attraction/repulsion dyad on pp. 147-150.

in Amsterdam) had been circulating for over a decade. There are striking similarities between John Sparrow's translation of the *Mysterium Magnum* and Newton's own language in his *Theological Notebook* and *Index Chemicus*; for example, Newton's Doctrine of Creation, which we will explore more fully below. Sparrow translates this key passage for the *Mysterium Magnum* in this way:

For the nothing (*das Nichts*) hungereth after the something, and the hunger is the desire, viz. the first Verbum Fiat, or creating power: For the desire hath nothing that is able to make or conceive. It conceiveth only itself, and impresseth itself, that is, it coagulateth itself, it draweth itself into itself, and comprehends itself, and bringeth itself from the Abyss (*Ungrund*) into the Byss (*Grund*)...<sup>157</sup>

In his *Theological Notebook*, Newton has transcribed Romans 10:7, curiously underscoring the word "Abyss," in a similar context:

Say not in thine heart who shall ascend into heaven (that) is to bring Christ down from above or who shall descend into the Abyss that is to bring up Christ again from the dead.<sup>158</sup>

The word "abyss" surfaces in several other strategic locations across his writings as, for example this definition that he supplies in his unpublished *Index Chemicus*: "Abyssus tenebrosus, chaos fluidem et nigrum. Introit. Apert. p. 18."<sup>159</sup> This might be unremarkable under any other circumstances; however, given that upon Sparrow's importation of this term from Böhme into the English language it was used heavily by the English Behmenists, a link between Böhme and Newton by way of John Sparrow and the English Platonists is strongly suggested, even though Newton rarely directly attributes his source(s). These usages strongly suggest that for Newton both the word

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<sup>157</sup> Sparrow ed., *ibid.*, (3:1-5), pp. 8-9. Unless otherwise noted, all Boehme passages cited in this section are derived from Franz Hartmann.

<sup>158</sup> Isaac Newton, *Theological MSS.*

<sup>159</sup> *Ibid.*, Kings College MS 30, p. 2.

and the concept behind it are Behmenist. Not only does the Behmenist term “abyss” appear throughout Newton’s writings, but other Behmenist vocabulary and concepts appear as well, some of which will be explored in succeeding sections.

#### A TEXTUAL ANALYSIS OF NEWTON AND BOEHME

Some uniquely Böhmean doctrines curiously reappear in the MSS and publications of Isaac Newton. The first of these doctrines is Newton’s philosophy of light. As is set forth below, Newton casts light in a blatantly metaphysical formulary. His conclusion from his refraction experiments that white light is divisible into seven colours, rays, or spirits is a direct parallel to Böhme. This correspondence is often overlooked by scholars who tend to completely metaphysize Böhme and “physicalize” Newton. Related to this, we shall explore Newton’s doctrine of creation, in which a concept approximating Böhme’s own *Ungrund* appears. Of the seven spirits mentioned above, one plays a key role in both Böhme and Newton. That is the concept of *salitter* (Böhme’s “seventh form”), which for Böhme functions as a bridge between the Divine Trinity (metaphysical spirits) and the three-fold phenomenal world. Newton’s own “bridge” or seventh form is called the “philosophical mercury,” but its function is nonetheless the same.

Alchemical influences and terminology upon Newton are not circumscribed to a few of his incidental theological writings. These ideas are manifest in what were to become the seeds of his “mainstream” scientific work. Consider this example from Newton’s “Certain Philosophical Questions,” found in the subdivision “Of the first matter” in the *Trinity Notebooks*:

Whether it be mathematical points, or mathematical points and parts, or a simple entity before division indistinct, or individuals, i.e., atoms.

1. Not mathematical points, since what wants dimensions cannot constitute a body in their conjunction because they will sink into the same point. An infinite number of mathematical points sink into one, being added together, and that, being still a mathematical point, is indivisible. But a body is divisible. (Newton has this next line crossed.) In fine a mathematical point is nothing, since it is but an imaginary entity.<sup>160</sup>

Note the use of the words “sink,” “body,” and “indivisible.” McGuire<sup>161</sup> and other analysts see these qualitative terms as rooted in Charleton and Gassendi, both of whom are clearly documented direct influences upon Newton. To this list, Edward Grant adds Henry More who clearly owned his philosophical debt to Böhme.<sup>162</sup> The idea of a mathematical point assumes a central place in Newton’s theology. To continue:

Not of parts and mathematical points, for such a point is either something or nothing. If something, it is a part, and so added between two parts will make a line of three parts. If nothing, then added between two parts there is still nothing between the two parts, and consequently the line consists of nothing still but two parts.<sup>163</sup>

Newton’s discussion of the nature of a mathematical point is very important because it is here that his concept of nothingness emerges most clearly and shows the definite influence of Cambridge Platonic and Behmenist thought, to say nothing of the Mediaeval Neoplatonic tradition. Newton had earlier in his notes concluded that a mathematical point was indeed nothing since it is “imaginary.” As the discussion proceeds, he establishes a theology by which the unitary Divine can emerge and be differentiated from absolute nothingness, Böhme’s *das Nichts*. Newton’s discussion of the potential for “nothingness” to serve as a means of differentiating between two

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<sup>160</sup> McGuire and Tamny, p. 345

<sup>161</sup> McGuire and Tamny, *ibid.*, pp. 58-60.

<sup>162</sup> Grant, *ibid.*

<sup>163</sup> McGuire and Tamny, p. 345.

parts on a line without itself becoming a third part is a direct parallel to the illustration by Freiherr in Sparrow's translation of the *Clavis*:

This Abyssal Nothing will introduce itself into Something. Viz. into Nature; that is into Properties: and through Nature into Glory and Majesty. This non is done by a Soft, Meek, or Tender Lubet, represented by this Finer Circling Line...<sup>164</sup>

The "Lubet" is an agent of division as well as manifesting "qualities," which Newton also discusses. For Böhme, this "Lubet" has the dual characteristic of differentiation as well as creation and "disappears" upon the reunion of the two parts which were previously separated or differentiated by it. So it is with Newton as well, suggesting strongly that he has been influenced by Böhme:

[By this modal ens, entity, agent or "Lubet,"] we speak not of a simple entity before division indistinct. For this must be a union of two parts into which a body is divisible, since those parts may again be united and become one body as they were at the creation. Now the nature of union (being but a modal ens) is to depend on its parts (which are absolute entities). Therefore it cannot be the terms of creation or first matter. For it is a contradiction to say the first matter depends on some other subject (except God-C), since that first implies some former matter on which it must depend.<sup>165</sup>

Furthermore, Newton's provides a differentia:

Those things which can exist being actually separate are really distinct, but such are the parts of matter.<sup>166</sup>

Compare this to Böhme:

From this results sensitiveness in nature, and herein is the cause of differentiation. Hardness (solidity) and the motion of life are opposed to each other. Motion breaks up the solidity (expands), and by means of attraction it also causes hardness (contracts).<sup>167</sup>

<sup>164</sup> Jakob Böhme, *The "Key" of Jacob Böhme*, trans. William Law, ed. Adam McLean, illus. Dionysius Andreas Freiherr (Magnum Opus Hermetic Sourceworks, no. 9) (Grand Rapids: Phanes Press, 1991), p.57.

<sup>165</sup> McGuire and Tamny, p. 345.

<sup>166</sup> Ibid.

<sup>167</sup> *Tabulae Princip.* 1:34.



One commentator, Grant, comments at length upon the fact that, for Newton, God is irreducible to a mathematical point because God is everywhere coexistent and coeternal with absolute space.<sup>168</sup> Again, the very concept of "ens" is of alchemical origin. Newton here uses it in a Behmenist fashion. Here is another version of the same concept which is conveyed in a letter by Böhme late in his life to Balthasar Tilke, which is thought to be the most succinct exposition of Böhmean thought available to the reader:

Truly, if there was or is nothing but God, it follows that God is the All, and that there is nothing which is not God. Nevertheless, those creations of God which are in a sense remote from the divine center are not divine, and therefore not God.<sup>169</sup>

Returning to Newton, in his second section, the qualitative figures prominently, following a distinctly Böhmean shape:

2. The first matter must be homogeneous and so either all hard or soft or of a middle temper. C-If hard then all the parts into which it is divisible will be hard-C, and of the same constitution will all the parts be into which it is divisible. The ["ens" as a "something"] will in its due place be proved impossible.<sup>170</sup>

Newton's language here concerning the qualities of "hardness" and "softness" are direct corollaries with Böhme. Also, it can be seen that Böhme's "third quality" and Newton's "first matter" are one and the same:

The third quality, the anguish [Böhme's term for "relative consciousness"], is evolved in the following manner:-The hardness is fixed...the hardness furnishes substantiality and weight.<sup>171</sup>

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<sup>168</sup> Edward Grant, *Much Ado about Nothing: Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution* (Cambridge and New York: Cambridge University Press, 1981), p. 345.

<sup>169</sup> *Tilke* 2:140.

<sup>170</sup> McGuire and Tamny, p. 345.

<sup>171</sup> *Mysterium Magnum* 3:15.

Now Newton, in order to further define the “ens,” enters upon a lengthy excursus setting forth his doctrine of the vacuum, which is central to our study here:

1. Suppose the first matter one uniform mass without parts; how should that body be divided into parts, as we see now it is, without admission of a vacuum? Suppose it be divided into two. What will be between those two parts? Not body, since it is all in the two halves. But, if it be said that it was first divided into smaller parts, we ask how came it so without less parts than those into which it was at first divided; or else vacuum to succeed in their room as they came to pieces... You must grant, too, that atoms were either created so or divided by means of a vacuum.<sup>172</sup>

Newton here extends his argument that if the modal ens is something, it can not divide the “first matter,” Böhme’s “third quality.” There truly must be a nothingness which is both metaphysical and spiritual which he denominates “vacuum,” a concept that also assumes chief importance in Boyle’s empirical scientific enterprise.

Böhme’s influence upon Newton extends far beyond the *Trinity Notebooks* into the *Principia*, “a work of science to be sure, but of science steeped in profoundly religious overtones,”<sup>173</sup> in which Newton carefully distinguishes time as such from endless duration. A. J. Snow, for example, asserts a direct link between Böhme and Newton not only in the concepts of *Ungrund*, *Salitter*, and vacuum, but also between Böhme and the very heart of Newton's "mainstream" science by way of the doctrine of “forms”:

For Böhme, "quality" as a "mobility, boiling, springing, and driving of a thing," has the same dynamic power and function as the "ethereal spirit"; that is, God is known to men by his eternal nature in the unceasing action of seven "forms" or "spirits", which are the principles of the universe and of all life. Of these "forms," three are important for our consideration. The first form is conceived as "astringence, hardness, coldness; it is self-centredness." The second form "is motion, perception...the sting, the feeling, the principle, of

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<sup>172</sup> J. E. McGuire and Martin Tamny, *Certain Philosophical Questions: Newton's Trinity Notebook* (Cambridge: University Press, 1983), pp. 337-341, 345.

<sup>173</sup> Gale E. Christianson, *In the Presence of the Creator: Isaac Newton and His Times* (New York: The Free Press/Macmillan, 1984), p. 247.

dissatisfaction or unrest." The third from arises from the other two, and is conceived as "anguish wandering strain." If we were to express the above in modern terms we should say that all change in the physical universe before self-consciousness was developed is due to the interplay of three forces, namely: (1) rest or repulsion, (2) motion, involving attraction, and (3) tension.<sup>174</sup>

We will return to a discussion of the Seven Spirits, after having examined parallels between Böhme's and Newton's respective doctrines of creation.

### Newton's Doctrine of Creation

Between Newton's and Böhme's respective doctrines of creation there lie three key areas in which are exhibited key similarities. Newton and Böhme deploy identical vocabularies to identify *creatio ex nihilo* (according to the usages of St. Thomas), although their vocabularies are frequently mistaken for a sort of emanationism, as was outlined in the second chapter. Both the Newtonian and Behmenist systems contain an agent by which creation occurs; a substance which is both spiritual and physical; *salitter* for Böhme (also explored in the preceding chapter) and "philosophical mercury" for Newton. The third marked overlap between the two thinkers lies in the concept of the "Abyss." As already noted, this word, Sparrow's translation of Böhme's *Ungrund*, is found throughout Newton's writings, especially in connection with his theology of creation and in his alchemical notes.

Having earlier in these same notes established the implausibility of an eternal prime matter (his "first matter" is not eternal), Newton proceeds to enunciate his theology of creation (*ex nihilo*)<sup>175</sup> in the form of a commentary on Genesis 1 which is strongly

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<sup>174</sup> Snow, *ibid.*, pp. 193-194.

<sup>175</sup> Note this excerpt from the Keynes MS, the famous *Additional MS 3975*, p. 35:

evocative of Jakob Böhme's hermeneutic of Genesis set forth in the *Mysterium*

*Magnum*. Newton writes:

The word ברא [create], which at Genesis, Chapter 1, verse 1, is interpreted to create something out of nothing, is used at Genesis, Chapter 1, verse 21, whence it is said God created great whales. But the matter out of which they were created did exist before... This creating, then, of whales and several other creatures, must be nothing but modifying matter into the body of a whale and infusing an irrational soul into it. Ecclesiastes 33:10: Adam was created of the earth.

Whether Moses saying that the evening and the morning were the first day, Genesis 1, proves that God created time. As expanded at Colossians 1:16, or Hebrews 1:2, τοῦζ αἰωνοσ εποιησεν, he made the worlds, proves that God created time.<sup>176</sup>

In this passage, Newton (following the Behmenist tradition) speaks of creation from a “first matter.” The idea of a “first matter” is a key component of Behmenist thought. Newton's prime matter is the “philosophical mercury.” Although Newton falls on the side of those who translate the Hebrew ברא (“create”) as a creation from pre-existent matter, it must be remembered that he does so only within the context of the physical order. Philosophically, he tenaciously adheres to a *creatio ex nihilo*, after Böhme, uniquely combining *creatio ex nihilo* with “emanationism” by means of the concept of a seventh form or “philosophical mercury.”

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Nihil est quod non in substantia sua & creatione corporeum sit: & omnium sive in caelo sive in lema?, sive visibilium sive invisibilium elementa formata sunt. Nam et animarum species sive oblimentium corpora, sive corporibus exul(t)antium, corpoream tamen naturae suae substantiam sorbientus quia omne quod creatum est, in aliquo sit necessus est... qui scilicet inter complura praeelsarum disputationem suarum quiddam secum sentiens...

<sup>176</sup> McGuire and Tamny, *ibid.*, pp. 447-449. Here is the context of these statements:

Neither is it meant of creating the soul or form of the whale, for that is not the whale alone, and there may be but one kind of irrational soul which joined with several kinds of bodies makes several kinds of beasts, for setting aside the different shapes of their bodies beasts differ from one another but in some qualities which are called instincts of nature. Now, as in men whose souls are of one kind, some love, hate, fear, etc., one thing, some another. Few men are of the same temper, which diversity arises from their bodies, for all their souls are alike; so why may not the several tempers or instincts of diverse kinds of beasts arise from the different tempers and modes of their bodies, they differing one from another more than one man's body from another's. To suppose then that God did create diverse kinds of souls for diverse kinds of beasts is to suppose that God did more than He needed. How then can the soul of the whale be called the whale, since before it is joined with the whale it is a much the soul of a horse.

Not only is the "philosopher's mercury" Newton's appropriation of Böhme's *Salitter*, but it is also that which links Newton's Doctrine of Creation with his alchemical practice. Newton's alchemical practice in turn connects his alchemy to that of other alchemists who were influenced by Böhme's *Salitter* concept. Newton, along with Böhme, believed in seven forms (or "qualities.") The seventh of these was the "philosopher's mercury," a substance both spiritual and physical, which exists at the core of every being and is that which makes the manifestation of the phenomenal world possible.<sup>177</sup> For Böhme as well as Newton of the seven forms, three are spiritual and three are physical. These two groups are connected by a seventh form, the *salitter* for Böhme and the "philosopher's mercury" for Newton, which is both spiritual and corporeal. Both Newton's "philosopher's mercury" and Böhme's *salitter* connect the inner spiritual and psychic world<sup>178</sup> with the outer physical universe according to the alchemical microcosm/macrocosm paradigm. Most importantly, both connect the Divine Trinity with the three-fold physical world:

The first and the seventh quality must be regarded as one, also the second and sixth, and also the third and the fifth; but the fourth is the object of division. The first then refers to the Father, the second to the Son, the third to the Holy Spirit.<sup>179</sup>

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<sup>177</sup> Gale E. Christianson, *In the Presence of the Creator: Isaac Newton and His Times* (New York: The Free Press/Macmillan, 1984), p. 227. Christianson provides an intriguing quotation from Elias Ashmole's (a contemporary of Böhme) *Theatrum Chemicum Britannicum* (London, 1652), pp. 446-447, where he defines the "philosophic mercury as "that Universal and All-piercing Spirit, the One operative Vertue and immortall Seede of Worldly things, that God in the beginning infused into the Chaos, which is everywhere Active and still flows through the world in all kindes of things by Universall extension."

<sup>178</sup> See Walsh, *ibid.*, and Mills, *ibid.*

<sup>179</sup> *Clavis* 9:75. A more detailed commentary on the relationship between the physical and Divine Trinities is to be found in the section detailing Newton's optical theory, *infra*.

All of this concerns second order creation, but Newton's first order creation offers further evidence that Newton's cosmology and theogony can be identified with Böhme at an even more profound level, the *Ungrund*. Newton himself said:

In him [God] are all things contained and moved; yet neither affects the other: God suffers nothing from the motion of bodies; bodies find no resistance from the omnipresence of God...those ancients who more rightly held unimpaired the mystical philosophy as Thales and the Stoics, taught that a certain infinite spirit pervades all space *into infinity*, and contains and vivifies the whole world. And this spirit was their supreme divinity, according to the Poet cited by the Apostle. In him we live and move and have our being.<sup>180</sup>

Here Newton follows the Pauline theology of God and Ground of Creation, that Ground which is eternally generated out of the *Ungrund*. The *Ungrund* is the "background" to the first order creation, in which prime matter is created.

Subsequently, through the agency of Christ, the God-man, the *Salitter* is created which is manifest as the chaos. Through the illumination of the Holy Spirit, matter is created and order is brought forth from the chaos in an operation that is as much metaphysical as it is physical. This pneumatological process lays the foundation for a post-creation axiology, as well. That Newton shared this understanding is evidenced in this transcription from his notes written in the 1680's:

Just as the world was created from dark Chaos through the bringing forth of the light and through the separation of the aery firmament and of the waters from the earth, so our work brings forth out of black chaos and its first matter through the separation of the elements and the illumination of matter.<sup>181</sup>

Compare Newton to Böhme on this point:

The *mysterium magnum* is the *chaos* wherefrom originates good and evil, light and darkness, life and death. It is the foundation or womb wherefrom are issuing souls and angels and all other kinds of beings, and wherein they are

<sup>180</sup> As cited by Betty Jo Teeter Dobbs, "Newton and Stoicism," *The Southern Journal of Philosophy* 23, Supplement (1985): 109-123, p. 115.

<sup>181</sup> Jan Golinski, "The Secret Life of an Alchemist," in *Let Newton Be!*, eds. John Fauvel et al. (Oxford: University Press, 1988), pp. 146-167, p. 160. See also Charles Webster, *From Paracelsus to Newton: Magic and the Making of Modern Science* (Cambridge: University Press, 1982).

contained as in one common cause, comparable to an image that is contained in a piece of wood before the artist has cut it out.<sup>182</sup>

Here the *Mysterium Magnum* refers not to the *Ungrund* but rather to the second-order creation. The net result of comparing the theologies of creation of these two natural philosophers is the realization that both Newton and Böhme share not only similar vocabularies regarding creation but, more importantly, the concepts behind their respective vocabularies are remarkably parallel. Creation, then, I claim, is yet one more likely area in which Böhme has exerted a strong influence upon Newton.

### Newton's Optics

Newton's search for a luminal substance was motivated by metaphysical concerns which strongly conform to Böhme's own philosophies of light.<sup>183</sup> For example, Newton concluded from his refraction experiments with the prism that white light is a spiritual, metaphysical substance which can be refracted into seven spectral colours or rays.<sup>184</sup> Even as the numeral "seven" assumes great importance in alchemical and occult usages, Newton's use of "seven" is not merely incidental. His vocabulary and phrasing surrounding light and its refraction into seven rays are very close to Böhme's. Böhme speaks of an original metaphysical substance in terms strongly evocative of those Newton would later use. Böhme writes:

This is that which all the seven spirits generate, and that is the son of all the seven spirits, and the seven spirits are its father, which generate the light; and

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<sup>182</sup> Böhme, *Clavis* 6:23. *Clavis* is a commentary upon the *Mysterium*, the work in which this doctrine is set forth most fully.

<sup>183</sup> See Alan E. Shapiro, "Artists' Colours and Newton's Theories of Light," *Isis* 85 (1994): 600-630, pp. 611-614.

<sup>184</sup> See Brian Gibbons, *ibid.*, p. 53. Gibbons concludes his discussion of Newton's theories of light by concluding that for Newton as for Böhme, "science is completely alloplastic."

the light generateth in them the life; and the light is the heart of the seven spirits.<sup>185</sup>

Reformulated that is to say that they are like seven living and conscious rays contained within the original colourless ray, and broken into seven different tints by their passage through “matter.”<sup>186</sup> This same concept is strongly present in Newton’s

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<sup>185</sup> *Aurora* 10:32. Here is the context in which the statement appears:

But the light, which subsisteth in the midst or the centre in all the seven spirits, and wherein standeth the life of all the seven spirits, whereby all seven become triumphing and joyful, and wherein the heavenly joyfulness rises up.

This light is the true Son of God, whom we worship and honour, as the Second Person in the Holy Trinity.

All the seven spirits of God together, are God the Father.

But the light is another Person, for it is continually generated out of or from the seven spirits, and the seven spirits rise up continually in the light; and the powers of these seven spirits go forth continually in the glance or splendour of the light in the seventh nature spirit, and do form and image all in the seven spirit; and this out-going or exit in the light is the Holy Ghost.

He continues:

After the fall man with his interior body lived only in time; the precious gold of heavenly corporeity which should tincture, penetrate and bless the external body, had lost its colour (*Signatura rerum* 5:8).

God in His primitive aspect is not to be conceived of as a being, but merely as the power or intelligence constituting the potentiality for being-as an unfathomable, eternal will, wherein everything is contained, and which, although being itself everything, is nevertheless only one, but desirous of revealing itself and to enter into a state of spiritual being. This takes place by means of the fire in the desire of love, i.e., in the power of the light (*Mysterium Magnum* 6:1).

Do not imagine these seven spirits to be standing one by the side of the other, comparable to the stars, which are seen side by side in the sky; they are all seven only one spirit (*Aurora* 10:40).

These seven properties are never transformed one into another; each retains eternally its own essentiality. The relations into which they enter with each other serve for the purpose of their mutual glorification; so that they, when they meet each other like strains of sweet harmonies in God’s eternal nature, appear like flaming lights of life and joy. Thus matter is never transformed into spirit, but illumined and glorified by the latter while the spirit obtains its corporification from matter.

Each of these principles is strongly defined in regard to its nature, nevertheless there is no antipathy between them. They are all rejoicing in God as one only spirit. Each loves the other, and there is nothing among them but joy and happiness. Their evolution is an eternal one and never any other (*Aurora* 10:51).

<sup>186</sup> Franz Hartmann, *The Doctrines of Jakob Böhme* (New York: Macoy Publishing, 1929), p. 85. Newton also speaks of “matter” under such terms as “aether.”



optical theory. In his theories of refraction Newton uses a variety of terms to describe this “first matter,” such as “aether,” “air,” and the “philosophical mercury [Böhme’s *salitter*].” These usages, again, strongly suggest the influence of Böhme upon Newton. Note that the original, colourless ray is refracted into seven different, interdependent rays or forms. This vector traces a trajectory throughout Newton’s works on optics and culminates in the revised version of his second theory of light presented in his celebrated *Questions* 31:

Have not the small particles of Bodies certain Powers, Virtues or Forces, by which they act at a distance, not only upon the Rays of Light...but also upon one another for producing a great Part of the Phenomena of Nature?<sup>187</sup>

Hakfoort comments on the rarity of such a formulation:

Newton’s final and most complicated account of refraction (a genuine force, caused by a density distribution of an ether, whose elasticity is caused by inherent microforces between the ether particles) is rarely found in the 18<sup>th</sup> Century.<sup>188</sup>

And the only ones using this terminology throughout the 18<sup>th</sup> Century were the Cambridge Platonists and Behmenists.

There are even more extensive parallels between Böhme and Newton. I mentioned earlier that Newton speaks of matter in various ways using such terms as “aether.” In 1674, concerning the “principles” of light, Newton wrote:

The aether is but a vehicle to some more active sp(ir)it and the bodys may be concreted of both together, they may imbibe aether as well as air in gen(er)ation and in yt aether the spt is intangled. The spt perhaps is the body of light because both have a prodigious active principle, both are perpetuall workers.<sup>189</sup>

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<sup>187</sup> As quoted by Casper Hakfoort, “Newton’s Optics: the Changing Spectrum of Science,” in *Let Newton Be!*, *supra*, pp. 80-99, p.95.

<sup>188</sup> *ibid.*

<sup>189</sup> Isaac Newton, *Of Nature’s Obvious Laws and Processes in Vegetation* (1674), as cited by Hakfoort, *ibid.* He also wrote in the Keynes MS, p 32r:

Newton had stated in his 1669 Lucasian Lectures on optics that “I suppose light is neither aether, nor its vibrating motion, but something of a different kind propagated from lucid bodies.”

These two passages from Newton are tellingly similar to another passage (in particular the discussion of motion and aether) in Böhme:

For if there were no light, then the elements would be motionless: all would be an astringent property, wholly raw and cold; and the water would be only a keen spirit, like to the property of the stars; and the air would be hidden in the water-source, in the sulphur, and be a still unmoving essence.

Böhme continues:

We see in very deed, that the light is the only cause of all stirring, motion and life; for every life desireth the power of the light, viz. the disclosed punctum: and yet the life is not the punctum, but the form of Nature. and if this punctum did not stand open, then the kingdom of darkness would be manifest in the place of this world; in which (place of wrath) Lucifer is a prince, and possesseth the princely throne in the wrath of the eternal nature, in the place of this world....That property which is master in thee, its servant thou art, pranck and vapour as stately and gloriously in the sun's light as thou wilt; hast thou not the eternal (light), yet thy fountain shall be made manifest to thee.<sup>190</sup>

To this last sentence, Sparrow appends a marginal gloss, “As to thy divine image, and spirit of love, in the eternal light.” In the third chapter of his *Mysterium Magnum*, Böhme integrates his natural philosophy of physical light with his theosophical concept of the *Ungrund*.

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Quod autem sermo prolatus, cujus modo fuit iste, Fiat lux, & caelam, nullam substantiae proprietatem habeat, sed vox tantum modo sit & sonus oris, negat idem de sermone 1) ei cogitandum esse, ut asseribat Proneas: verum illum esse substantivum, ac propria persona praeditum. Non vis enim, iniquit, eum substantivum habere in re per substantiae proprietatem, ut res et persona quedam videri possit: & ita capiat secundus a Deus constitutus duos efficare, Patrem et filium, Deum et sermonem.

<sup>190</sup> Jacob Behm, “*Mysterium Magnum*” or *An Exposition of the First Book of Moses called Genesis*, translated by John Sparrow (London: Printed by M. Simmons for H. Blunden, at the Castle in Corn-hill, 1654), p. 64 (10: 44-46).

The striking similarities between Newton's and Böhme's theories of light and the corresponding rarity of this perspective strongly suggest that Newton appropriated Böhme's philosophies of light and colour, subsequently mathematizing them and otherwise adapting them to his own purposes. Newton exhibits a great metaphysical interest in vacuum in his theological MSS. He later was to reveal these interests in his correspondence with Robert Boyle; therefore, we shall reserve our exploration of vacuum for our study of Boyle, below.

### Vacuum and Absolute Space

Historian of science Edward Grant recounts that prior to Newton the doctrine of infinite void space was regarded as beyond the canons of experimental science.<sup>191</sup> Newton, as discussed earlier, was a disciple of Cambridge Platonist Henry More. More, in turn, was a steadfast Behmenist and disseminated Böhmean thought widely in the English-speaking world. It is also known that Gassendi (who "started from the axiom that nothing can become nothing, or can arise out of nothing"<sup>192</sup>) and Charleton exerted great influence upon Newton, although he rarely publicly acknowledged this debt. The most intriguing fruit of Newton's interface with the Cambridge Platonists was his concept of absolute, infinite space; a finite world surrounded by infinite space. Although Grant and other analysts allege that Newton was at no time ever a Nullibist (casting him instead as a Stoic<sup>193</sup>), his experiments seem to indicate otherwise. From the Cambridge Platonists, Newton would have been heritor of the concept that there was once a "time" when there was absolutely nothing, the *Ungrund*.

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<sup>191</sup> Edward Grant, *Much Ado About Nothing: Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution* (Cambridge: University Press, 1981), p. 240.

<sup>192</sup> Snow, *ibid.*, p. 40.

<sup>193</sup> See Betty Jo T. Dobbs, "Newton and Stoicism," *The Southern Journal of Philosophy* 23, suppl. (1985): 109-123, as well as her "Newton's Alchemy and His Theory of Matter," *Isis* 73 (1982): 512-515.

Thereafter, God became in a theogonic process of self-begetting. A closer examination seems to suggest that Newton changed his mind from an original espousal of an anti-Nullibist position in which he asserted that space is "no substance because it is not absolutely self-existent (*non absolute per se*) but is as it were an emanent effect of God, or a disposition of all being."<sup>194</sup> Unmistakably clear are Newton's further words on the subject that "the Maker and Lord of all things cannot be *never* and *nowhere*."<sup>195</sup> In other words, Grant says that for Newton "if space is neither substance nor accident, it is surely not a nothing (*nihil*), for the latter has no properties and cannot even be conceived".<sup>196</sup> Here Newton is using *nihil* in its absolute sense as a synonym for *omnino nihil*, or that which can not be conceived. It is thus equivalent to Böhme's *Ungrund* in this regard.

Following his celebrated centrifugal experiments with the pail of water, Newton concluded that there must be a "relative space" and an "absolute space." This "absolute space" he describes in terms that strongly suggest Böhme's *Ungrund* and coincidental theogony. Relative space could then be related to the  $\mu\eta\ \sigma\upsilon\varsigma$ , the commensurable arena of human activity and knowledge. "Absolute space, then, is God's abode and is coeternal with Him, yet is not ontologically self-sufficient as is God. The equality of Newton's thought with Böhme's concepts of the *Ungrund* are especially striking upon consideration of the Keynes MSS. Concerning the vacuum, Newton the following with clearly metaphysical motivation:

A being immoveable c-and invisible-c (because necessarily in all places so that no place can be without him) & the first cause of formation in all other

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<sup>194</sup> Grant, p. 242.

<sup>195</sup> *Ibid.*, p. 253.

<sup>196</sup> *Ibid.*

things for he is necessarily in all places alike so that no place can subsist with him or be emptier or fuller of him than it is by the necessity of nature.<sup>197</sup>

Since the kinematics demonstration proved to Newton's own mind that there existed an infinite void space, this solved Newton's dilemma of an omnipresent God who must act immanently. To demonstrate the nature of such a ground and to describe God's actions and ontology experimentally was for Newton a key incentive for the entire scientific enterprise.

Since Boyle (for whom voluntarism underwrote empiricism) experimentally investigated philosophies of vacuum<sup>198</sup> in his laboratory, we shall explore his concepts of the vacuum without further considerations of Newton's possible contributions to the field.

#### ROBERT BOYLE

The influence of alchemy upon Robert Boyle has been demonstrated by many scholars clearly and incontrovertibly.<sup>199</sup> It is not the object of this section to assert a direct link from Böhme to Boyle although Snow suggests a mutual similarity among Newton, Boyle<sup>200</sup>, and Descartes along these lines. A. J. Snow notes concerning Boyle:

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<sup>197</sup> King's College Keynes MS, p. 35. Passages framed with "c" indicate phrases crossed through in Newton's own hand.

<sup>198</sup> See John Henry, "Henry More vs. Robert Boyle: The Spirit of Nature and the Spirit of Providence," in Hutton, pp. 55-76, p. 65. See also J. E. McGuire, "Boyle's Conception of Nature," *JHI* 33(1972): 523-542, as well as Lawrence M. Principe, "The Alchemies of Robert Boyle and Isaac Newton: Alternative Approaches and Divergent Deployments" in *Rethinking*, pp. 201-220, and William R. Newman, "The Alchemical Sources of Robert Boyle's Corpuscular Philosophy," *Annals of Science* 53 (1996): 567-585.

<sup>199</sup> See Jan W. Wojcik, *Robert Boyle and the Limits of Reason* (Cambridge: University Press, 1997), pp. 121-136.

<sup>200</sup> For an interesting comparison see Michael T. Walton, "Boyle and Newton on the Transmutation of Water and Air from the Root of Helmont's Tree," *Ambix* 27 (1980): 11-18. See also John Hedley

Henry More, who combined the teaching of Böhme and the Cabbala, exerted a great influence on the men of this day, particularly at Cambridge, being himself a fellow at Christ's College. That the opinions of More were influential can be observed in the comments and references made by Boyle; also in Boyle's lengthy correspondence with More, especially in his reference to More's criticism of Descartes' physics. Not only did the Cambridge scholars value More's writings, but the important philosophers on the continent did also, for example, Descartes, who was involved in a lengthy correspondence with him.<sup>201</sup>

While there are direct connections between the Early Modern German theologian Johann Alsted,<sup>202</sup> whose alchemy bears a striking resemblance to Behmenist thought (to say nothing of the Henry More correspondence), and Boyle, there are no clear evidences of Böhme's influencing Boyle immediately as we find in the case of Sir Isaac Newton. The goal of this section is to briefly address the metaphysical motivation for Boyle's vacuum experiments. Boyle's theology and theological motivations for undertaking his vacuum experiments have been suggested by other researchers, one of whom has concluded that the laboratory figured so prominently for Boyle because of his conviction that "system can only be discovered *a posteriori*."<sup>203</sup> Since the focus of the present work has been Jakob Böhme, it is my purpose here to make a brief philosophical analysis of Boyle's theological motivation

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Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 1991), pp. 117-118.

<sup>201</sup> A. J. Snow, *ibid.*, p. 194.

<sup>202</sup> Jane E. Jenkins, "Arguing About Nothing: Henry More and Robert Boyle on the Theological Implications of the Void," in *Rethinking the Scientific Revolution*, ed. Margaret J. Osler (Cambridge: Cambridge University Press, 2000), pp. 153-179, pp. 177-179. Jenkins expends great effort to clearly define the "nothing" which was Boyle's vacuum. She speaks of it as "absolute privation" in several places. This is not to be confused with the "privation" of Kant and other thinkers whose "privations" were still somehow "something." Rather, Boyle's "privation" or vacuum is absolutely nothing, that which is logically impossible. For this reason, Jenkins recounts, Boyle was extremely careful to avoid descriptive language that would somehow metaphysize the "nothing" into "something." See n. 212, below.

<sup>203</sup> Henry, *ibid.*, p. 67.

for undertaking his vacuum experiments and to suggest parallels between Jakob Böhme's Doctrines of the *Ungrund* and *Salitter* and Boyle's vacuum experiments.

I set forth Isaac Newton's philosophy of the void and vacuum earlier as likely having been influenced by Jakob Böhme. Newton held many of the same questions about vacuum and the void as did others of the Western metaphysical tradition such as Gassendi<sup>204</sup>, Suarez<sup>205</sup>, Aquinas<sup>206</sup>, Eriugena<sup>207</sup>, Descartes.<sup>208</sup> These questions occupied a prominent place in the intellectual firmament of metaphysicians across the centuries. However, the central metaphysical substance for Isaac Newton was light, as exemplified by the prism experiments.<sup>209</sup> Newton's position was that white, undifferentiated light was a physical manifestation of a metaphysical substance. That substance was "something" rather than "nothing." It was to be equated with one of the seven alchemical forms; indeed, in Behmenist fashion, Newton described white light as divisible into seven rays or forms.

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<sup>204</sup> See Margaret J. Osler, "Baptizing Epicurean Atomism: Pierre Gassendi on the Immortality of the Soul," in *Religion, Science, and Worldview: Essays in Honour of Richard S. Westfall*, eds. Margaret J. Osler and Paul Lawrence Farber (Cambridge: University Press, 1985), pp. 161-183, pp. 176-178.

<sup>205</sup> Grant, *ibid.*, pp. 345-352.

<sup>206</sup> See Robert C. Trundle, *Medieval Modal Logic and Science: Augustine on Necessary Truth and Thomas on Its Impossibility without a First Cause* (Lanham, MD: University Press of America, 1999), pp. 68-72.

<sup>207</sup> See Erika von Erhardt-Siebold and Rudolf von Erhardt, *The Astronomy of Johannes Scotus Erigena* (Baltimore: Williams and Wilkins for Vassar College, 1940), as well as their *Cosmology in the "Annotationes in Marcianum": More Light on Erigena's Astronomy* (Baltimore: Williams and Wilkins, 1940).

<sup>208</sup> Margaret J. Osler, "Eternal Truths and the Laws of Nature: The Theological Foundations of Descartes' Philosophy of Nature," *JHI* 46 (1985): 349-362.

<sup>209</sup> Shapiro, *ibid.*

Light and colour played important roles in the life and thought of Robert Boyle as well.<sup>210</sup> However, for Boyle, vacuum was the central metaphysical substance. By the time of Robert Boyle, quantifiability had become the governing criterion for experimental legitimacy. Thus, when Boyle under clear alchemical influence began his quest for demonstrating metaphysical verities<sup>211</sup>, he chose to pursue vacuum because his newly refined vacuum pump afforded the opportunity to experimentally demonstrate a logical impossibility, a vacuum within a vacuum<sup>212</sup>. Newton had chosen white light as the likely candidate for his “philosophical mercury;” his equivalent of Böhme’s *Salitter* (the “spiritual link” between the physical and metaphysical). Boyle was much more ambitious. Allured by the prospects of rendering “absolute nothingness” with his new pump, he elected to search for that which was antecedent to creation; indeed, that in which the very secrets of the Divine were hidden. Natural philosophers and theologians viewed a vacuum as the complete absence of anything, including God:

To call it void absolutely, would be judged by many as declaring himself a vacuist, who does not yet own the being either of their opinion, or a downright plenist; or else he must be troublesome to the reader and himself, by frequently explaining what sort of vacuum he understands; whereas he declares once for all, that by the *Vacuum Boylianum* he means such a vacuity or absence of common air, as is wont to be effected or produced in the operations of the *Machina Boyliana*.<sup>213</sup>

<sup>210</sup> See William R. Newman, “Boyle’s Debt to Corpuscular Alchemy,” in *Robert Boyle Reconsidered*, ed. Michael Hunter (Cambridge: Cambridge University Press, 1994), pp. 107-118, as well as Lawrence M. Principe, “Boyle’s Alchemical Pursuits,” *ibid.*, pp. 91-105.

<sup>211</sup> For an exploration of the metaphysical and alchemical nature of these “qualities” which Boyle sought to probe experimentally, see Peter R. Anstey, *The Philosophy of Robert Boyle* (London and New York: Routledge, 2000), pp. 17-21.

<sup>212</sup> Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton: University Press, 1985), p. 217. Shapin and Schaffer quote More’s 1662 incredulity at “the doctor’s grand and laudable design, wherein I wish him much success of proving the existence of an incorporeal substance.”

<sup>213</sup> Jenkins, *ibid.*, goes on to remark:

With this kind of reasoning, Boyle reconceptualized the void as privation. It could be said in concrete, material terms while not posing the paralogue of saying that nothing existed. A



The void of which Boyle speaks is the “absolute nothingness” of *creatio ex nihilo*, completely devoid of any potentiality.<sup>214</sup> Its observation was made possible by the evacuation of air from a cylinder or sphere with Boyle’s highly efficient pump. In the case of a physical object, we would speak of its “presence” in the cylinder. The *Ungrund*, by contrast, may be spoken of only as “absent.” Since the *Ungrund* was “potentially” physical demonstrable by its “absence” from the evacuated cylinder, it remained for Boyle to provide a hermeneutic by which to interpret his laboratory results. Historians of science, even those whose focus is Boyle’s theology and/or alchemy have tended to be curiously anachronistic in this regard, downplaying the philosophical importance of Boyle’s vacuum demonstrations.

Sir Isaac Newton investigated concepts of nothingness and the vacuum, although he did not attempt to probe the subject experimentally as did the Honourable Robert Boyle. Likewise, Boyle was greatly absorbed by the notion that light is a substance with both physical and spiritual qualities (as in Böhme’s *Salitter*), but did not conduct extensive optical refraction experiments after the manner of Newton in his pursuit of “philosophical mercury.” Both Newton and Boyle were motivated in their respective

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notion of void could be incorporated into explanations without either asserting or denying its actual existence in reality.

The Aristotelian conceptual framework refuted the possibility of void by arguing that a vacuum, which was a denial of existence, could not be asserted to exist. Boyle’s reconceptualization shifted emphasis from the logical contradiction implicit in consideration of the existence of nonbeing to the notion that privation was a negation in a subject...

<sup>214</sup> See J. J. Mackintosh, “Locke and Boyle on Miracles and God’s Existence,” in *Robert Boyle Reconsidered*, *ibid.*, pp. 193-214, p. 200, as well as Timothy Shanahan, “Teleological Reasoning in Boyle’s *Final Causes*,” *ibid.*, pp. 177-192, pp. 180-183, and Ron Millen, “Manifestations of Occult Qualities in the Scientific Revolution,” in *Religion, Science, and Worldview: Essays in Honour of Richard S. Westfall*, eds. Margaret J. Osler and Paul Lawrence Farber (Cambridge: Cambridge University Press, 1985), pp. 185-216, pp. 212-214.

experimental pursuits by Behmenist/alchemical notions of a substance which is both spiritual and physical, the seventh form which arises *in vacuo*.

## CONCLUSION

Immediately after Newton's death there was widespread evidence that Boehme influenced Newton, metaphysically as well as in that body of natural philosophy which would become known as "Newtonian science." The fact of Böhme's influence upon Newton has been obscured. Earlier in the present chapter, I sought to demonstrate Böhme's relevance for and influence upon Isaac Newton as well as Robert Boyle. After considering various forms of evidence for Newton's access to Boehme, I set forth a textual comparison and analysis of the works of Jakob Böhme alongside those of Isaac Newton. This exercise revealed a striking similarity in their respective Doctrines of Creation, especially as exhibited by their rhetoric surrounding the Doctrine of *Creatio ex nihilo*. In this context, I sought to clarify the definition and usages of Böhme's *Ungrund* as a synonym for the creation of the phenomenal world from absolutely nothing as well as God Himself coming to be from that same *Ungrund* in a theogony.

I also examined Newton's theories concerning light, especially the metaphysical significance of Newton's theory that white light, a spiritual substance, is refracted into seven different rays. It was suggested that Newton was philosophically motivated to undertake these optical experiments by the Cambridge Platonists who were in turn so heavily shaped by the contours of Behmenist thought. In addition to examining indirect transmission of Behmenism to Newton, I also evaluated some possible direct connections as evidenced by a close comparison of the respective texts. There are

three possible areas in which the two are linked. The first of these is their shared Doctrine of Creation which is a genuine creation *ex nihilo*, albeit involving a prime, although not eternal, matter. The second possible connection between the two is the concept of the void, or nothingness, which both share. The likelihood of this connection is increased upon an examination of Newton's philosophy of mathematical points which are "nothing" yet function as "something." Third is the striking similarity between Newton's "philosophical mercury" and Böhme's *salitter* which was probed as a likely connection between the Behmenist and Newtonian systems.

The aim of the section on Robert Boyle was to explore one aspect of alchemical influence, his vacuum experiments. Here support was offered for the claim that Boyle was philosophically motivated into undertaking his air pump experiments by the Christian doctrine of *creatio ex nihilo*, especially in its alchemical, Behmenist formulation.

These studies potentially provide a basis for re-evaluating Newton's religious persuasion. One Newton student aptly summarizes that "the main purpose of Newton's theological studies was to uphold Protestantism and refute the claims of the Roman Church. The historical study of the Doctrine of the Trinity was made for this purpose."<sup>215</sup> Furthermore, Newton was apprenticed to the benign Apothecary Clark for a time who was a zealous-but-gentle Puritan. Upon Newton's debt to Boehme, the probability of an heretical Newton wanes. To the contrary, Newton was clearly shaped by Puritans, having been educated in the pervasively Presbyterian Grantham Grammar School whose faculty were prominent Behmenist spiritual leaders of their

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<sup>215</sup> Arthur David Ritchie, *Essays in Philosophy* (London and New York: Longmans Green, 1948), p. 170.

time. The net effect of a study of Puritan influences upon Newton casts his theological positions in a new light. A close reading of Newton's writings reveals that we have here to do not with a heterodox rebel but rather with a Puritan Newton.

One can never embark upon a study of Jakob Böhme without a corresponding personal transformation. So it was for William Law, the Cambridge Platonists, and Henry More. And so it was for scientists Isaac Newton and Robert Boyle, religious figures William Fox and Jane Leade, and historian of science Alexandre Koyré. And so may it be for us.

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APPENDIX A

## EASTERN CONCEPTS OF NOTHINGNESS

For the past two centuries, Western European thinkers have sought to situate Eastern religious and philosophical thought within a Western conceptual framework.<sup>216</sup>

Böhme was an early casualty of this ideational enterprise; specifically, his *Ungrund*.

Philosophers East and West variously equated the *Ungrund* with, for example, the

*Shyunyata* of the Mahayana and Zen Buddhist traditions. Taoists also entered the

discussion, to say nothing of Hindu scholars in the Indian Subcontinent. However, a

lexical study of these Eastern concepts such as *Shyunyata* reveals the truth of Altizer's

assertion that "Buddhist pure emptiness (*Shyunyata*) is not the same as absolute

nothingness (in the Western tradition)."<sup>217</sup> Eastern thinkers themselves realize the

limitations of their concepts of nothingness. An early example is the Taoist Chuang-

tzu:

If there is a beginning, there must have been a time before the beginning; there furthermore must have been a time that preceded this very time before that beginning. If there is being, nonbeing must precede it; and before this nonbeing, there must have been a time where not even that nonbeing had started. Furthermore, another time before that which had not even seen the not-beginning of the nonbeing. One cannot say whether this being of the nonbeing is part of an overall being or nonbeing.<sup>218</sup>

One further example from a vast abundance is the Japanese *Kojiki* of 712:

There was chaos-but who can say what shape it had? There was no shape; nothing moved, there was not even a name for it. But in all this emptiness, Earth and Heaven parted and something emerged between the two. What did emerge is a god-but a god who had no part in that creation, not even in his

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<sup>216</sup> For a fascinating account of the reception of Kantian philosophy and the subsequent Idealist tradition in Japan, see the study of Sartre and his Japanese colleagues in Stephen Light, *Shuzo Kuki and Jean-Paul Sartre: Influence and Counter-Influence in the Early History of the Existential Phenomenology* (Carbondale: Southern Illinois University, 1987).

<sup>217</sup> Thomas J. J. Altizer, *The Genesis of God: A Theological Genealogy* (Louisville: Westminster/ John Knox, 1994), p. 124.

<sup>218</sup> As cited by Henning Genz, *Nothingness: The Science of Empty Space*, translated by Karen Heusch (Cambridge: Perseus, 1998), p. 34.

own.<sup>219</sup>

The most thoughtful attempt (and very nearly the only such study) to render the varieties of nothingness intelligible to both an Eastern and Western audience (including both Anglo-American analysis and Continental European idealistic philosophies) is Graham Priest's collaboration with Jay Garfield. Although Priest's and Garfield's object is to define the limits of thought and expressivity in Nagarjuna, they nonetheless provide some provocative meanings for nothingness against which they posit a "dialetheism" as opposed to theistic or atheistic formularies. They define Nagarjuna's "emptiness" as a relative nothingness and assert that Nagarjuna nowhere sets forth a claim for absolute nothingness, which is inconceivable. In order to be conceived and to enter into a dialectic, a "nothingness" must be relative. It is this nothingness which constitutes Nagarjuna's paradox.<sup>220</sup>

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<sup>219</sup> Ibid.

<sup>220</sup> See Graham Priest, *Beyond the Limits of Thought* (Oxford: Clarendon Press, 2002), pp. 265-269.

APPENDIX B

Here is Sparrow's translation, so heavily influential upon Henry More and the Cambridge Platonists, of a key passage from Böhme concerning the Doctrine of Creation and the bivalent (physical and metaphysical) nature of light:

2. Now, since light and darkness, moreover pain and source are seen in the Outward world, and yet all originally proceed from the eternal Mystery (*Mysterium Magnum*), viz. from the inward spiritual world, and the inward spiritual world proceedeth out of the eternal generating and speaking Word, thereupon we are to consider, How, out of the eternal good and evil is come to be, which, in the good, hath no beginning to the evil: Whence darkness, pain and source arise: And then, from whence a luster or light ariseth in the darkness.
3. For we cannot say that the eternal light, or the eternal darkness, is created; Otherwise they would be in time and a comprehensive beginning; which is not so. For they are concomitant in the generation, yet not in the wisdom or generation of the Word of the Deity; but they take their original in the desire of the speaking Word.
4. For in the eternal speaking Word, which is beyond or without all nature or Beginning, is only the divine understanding or sound; in it there is neither Darkness nor light, neither thick nor thin, neither joy nor sorrow; moreover, No sensibility or perceivancy (finding or apprehension); but it is barely a Power of the understanding in one source, will and dominion; there is neither Friend nor foe unto it, for it is the eternal good, and nothing else.
5. Seeing then this eternal good cannot be and insensible essence (for it were Not manifest to itself), it introduceth itself in itself into a lubet, to behold and see what itself is; in which lubet is the wisdom: and then the lubet, thus seeing what itself is, bringeth itself into a desire to find out and fell what itself is, viz. to a sensible perceivance of the smell and taste of the colours, powers and virtues: and yet no perceivancy could arise in the free spiritual lubet, if it brought not itself into a desire, like a hunger.
6. For the nothing (*Nichts*) hungereth after the something, and the hunger is the desire, viz. the first Verbum Fiat, or creating power: For the desire hath nothing that is able to make or conceive. It conceiveth only itself, and impresseth itself, that is, it coagulateth itself, it draweth itself into itself, and comprehends itself, and bringeth itself from *Ungrund* into *Grund*; and overshadoweth itself with its magnetical attraction; so that the nothing is filled, and yet remains as a nothing; it is only a property, viz. a darkness. This is the eternal original of the darkness; for where there is a property there is already something; and the something is not as the nothing: It yieldeth

obscurity (causeth darkness), unless something else, viz. a luster, doth fill it; and then 'tis light, and yet it remaineth a darkness in the property.<sup>221</sup>

The motion is fugitive; the one is centripetal, the other centrifugal; but as they are one, and cannot separate from each other (nor from their center), they become like a turning wheel, in which one part strives upwards and the other one in a downwaerd direction. The hardness furnishes substantiality and weight, while the "sting" (desire in motion) supplies spirit (will for freedom) and fugitive life. All this causes a turning around and within and outwardly, having nevertheless no destination where to arrive. That which the attraction of the desire causes to become fixed is again rendered volatile by the aspiring for freedom. There then results the greatest disquietude, comparable to a furious madness, from which results a terrible anguish.<sup>222</sup>

Here also are some additional passages from Newton regarding his Doctrine of

Creation It is to be noted that the ensuing discussion of vacuum exhibits a likeness to Behmenist discussions of the void. Here Newton attempts to set forth the vacuum as "something" which is the agent of divisibility while remaining "nothing," both in a spiritual as well as physical sense. Were Newton to set forth the vacuum as a "something," it would become a physical substance without the metaphysical perquisites of a mathematical point:

So that where there is plenitude of matter, it will be of the same temper the first was, and there will be no change in nature unless you will allow it either to arise from vacuities interspersed or from the several proportions that quantity has to its substance-matter acquiring a harder nature by less quantity and a softer by more. Likewise there will be no other way for rarefaction and condensation to be explained. If the first way, then the body will be no such continuum as to be without distinct parts, since it will be everywhere divided by interspersed inanities.

Suppose the first matter was divided as small as sand. Then divide one of those sands. A third sand cannot succeed between them before they be at some distance, unless there might be some smaller matter to run in an keep out vacuum, but to affirm this is to say the first matter had very little parts in it before it was divided. But again, now matter is divided, if two parts of matter of the least size were separating and distant one from another, the space of half C-their diameter, they will not then touch, for if they did then their semidiameter will be but a mathematical point, and their diameter as two

<sup>221</sup> Sparrow ed., *ibid.*, (3:1-5), pp. 8-9.

<sup>222</sup> *Mysterium Magnum* 3:15.

mathematical points together, i.e., as nothing, for two nothings put together make a third nothing, and so the least parts of matter would be mathematical points, which is absurd-C. Vacuum will then come between if nothing else can, and no matter will come between, since the diameter of the least particle will be as big again as that C-space. If it be said that matter may move over so little space in an instant, and other matter may succeed in an instant and so there need be no vacuum, I answer it may as well be moved through the universe in an instant. For instantaneous motion<sup>223</sup> is infinitely swift and will carry the thing in which it is as soon through an infinite space in an instant as well as through a finite space of the breadth of an atom. I cannot conceive how so violent a motion should be stopped without some violent effect, though in so little an agent-C. What is said of so little bodies maybe said of greater. As thus, suppose two globes were to come together. They must pass through all the intermediate degrees of distance before they can be joined. Suppose they then be distant but half the breadth of the least particle of matter. There can be no matter between them, since all matter is too big to interpose itself; neither can the two globes touch for that implies that the semidiameter of the least atom has no breadth, but had it not breadth the diameter could have none, and so the least particles of matter would be mathematical points. Therefore a vacuum must interpose, unless you say those atoms are as far divided as they are divisible. That there are least parts of matter (i.e., so little that there cannot be a place too little for them to creep into, and then you will grant what I plead for, namely, indivisible particles.<sup>224</sup>

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<sup>223</sup> This is exactly Böhme's (*Clavis* 8:30) philosophy of motion (the second physical form) as that which differentiates among the points: "Motion divides the attracted desire and causes differentiation, thereby awakening the true life."

<sup>224</sup> As cited by McGuire and Tamny, p. 345.

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