

## Bach and the Harmonia Mundi

**Hylas:** Yes, Philonous, I grant the existence of a sensible thing consists in being perceivable, but not in being actually perceived.

**Philonous:** And what is perceivable but an idea? And can an idea exist without being actually perceived?<sup>1</sup>

*How oft it happens when one's smoking:  
The stopper's missing from its shelf,  
And one goes with one's finger poking  
Into the bowl and burns oneself.  
If in the pipe such pain doth dwell,  
How hot must be the pains of Hell.*

*Thus o'er my pipe, in contemplation  
Of such things, I can constantly  
Indulge in fruitful meditation,  
And so, puffing contentedly,  
On land, on sea, at home, abroad,  
I smoke my pipe and worship God.<sup>2</sup>*

Historically, the period of the Baroque was one in which deep thought and “fruitful meditation” truly took place. It was not only a period which produced countless works of art in various media, but one in which humanity came to terms with the renewed intellectual interests manifested first in the Florentine Renaissance. René Descartes had initiated a theoretical current for science to advance, for art to become sensible, and for people to even question the process of

<sup>1</sup> George Berkeley, *Three Dialogues between Hylas and Philonous* (New York: Macmillan Publishing Co., 1954, originally published 1713), p. 81.

<sup>2</sup> a poem by J.S. Bach, “Edifying Thoughts of a Tobacco Smoker.” In Hans T. David and Arthur Mendel, *The Bach Reader, revised edition* (New York: W. W. Norton, 1966), p. 108.

their own thoughts. Berkeley toys with the idea of what thought is, and asks us: does an idea exist even if it is not perceived? In a certainly less serious tone, it is believed the composer J. S. Bach jotted down his own musings while “puffing contentedly,” thus illuminating for us that even less philosophically-minded individuals spent time in thought.

Musicians, and artists in general, had set to work on the theoretical basis for their labors beginning with Peri, Caccini, de Bardi, and Monteverdi as early as the turn of the seventeenth century. The rise of humanism, as practiced in the various Italian academies, directed artists to the ideals of the ancient past as a means to find quality in what they produced. Based upon Platonic and Aristotelian accounts, “the Baroque composer wanted to move the listener to a heightened emotional state.” But by the late Baroque, “it was now the listener and not the text that had become the object of the composition.”<sup>3</sup>

If we ourselves thoughtfully consider the realm of thought during the Baroque period, and likewise consider what effect such thought had on the art that was produced, we may begin to understand and appreciate this art in deeper ways. Based in part upon the heritage of the theoretical-humanist thought devoted to music available to the Baroque composer and the German creation of music through *musica poetica*, I propose to demonstrate how one composer in particular, in addition to representing the culmination or perfection of an entire historical period, came to synthesize the art of musical rhetoric, Lutheran theology, and multinational style. Succinctly, my aim is to illuminate J. S. Bach’s materialization of the Pythagorean ‘music of the spheres’ in his third *Brandenburg Concerto*, BWV 1048.

### Ratios, the Cosmos, and Spheres

Do you not recognize it

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<sup>3</sup> Dietrich Bartel. *Musica Poetica: Musical-Rhetorical Figures in German Baroque Music* (Lincoln, Nebraska: University of Nebraska Press, 1997), p. 32.

from so many brilliant stars that shine  
around you, from the unwonted harmony  
of the moving spheres you hear,  
from the great globe  
of shining sapphire you see  
that bears them off into orbit?<sup>4</sup>

From as early as 900 A.D., the authors of the *Scholia enchiridis* echoed the concept of a cosmic harmony realized through ratio: “Music is fashioned wholly in the likeness of numbers...Whatever is delightful in song is brought about by number though the proportioned dimensions of sounds...”<sup>5</sup> Such ideas had appeal to the Florentine humanists Marsilio Ficino and Pico della Mirandola, who through their theories of music, became a connecting link between antiquity and modernity.<sup>6</sup> Humanists required authority for such ideas, and the rediscovery of the *Corpus Hermeticum* had been a major philosophical justification for the renewed consideration of the great theme of cosmic harmony.<sup>7</sup>

Soon enough, musicians were injecting these novel ideas into their works. In an intermedii by Bastiano de’ Rossi entitled “L’armonia delle sfere,” the concept of a cosmological harmony is focused upon:

We, by whose singing the celestial spheres  
are sweetly made to turn around,  
have on this happy day  
taken leave of Paradise  
to sing the greater wonders  
of a beautiful spirit and a comely face.<sup>8</sup>

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<sup>4</sup> from “Scipio’s Dream,” by Metastasio in Jamie James, *The Music of the Spheres: Music, Science, and the Natural Order of the Universe* (New York: Grove Press, 1993), p. 174.

<sup>5</sup> Jamie James, *The Music of the Spheres*, p. 83.

<sup>6</sup> *ibid.*, p. 99.

<sup>7</sup> *ibid.*, p. 117.

<sup>8</sup> *ibid.*, p. 104.

Likewise, the attractive idea traveled to France: “Beaujoyeaulx did on several occasions allude to the power of music to tame the passions, and suggested that harmony in the soul is patterned after the harmony of the universe.”<sup>9</sup>

Although the ancients had not accounted for the inclusion of religious belief, “Ficino’s life work was the attempt to reconcile Christianity with the pagan classics, a great many of which he translated for the first time out of Greek.”<sup>10</sup> The attraction to ancient concepts, for humanists such as Ficino, was partly the psychological drive to uncover the magical. Ficino, in fact, was primarily interested in music for its supposed magical effects. Ficino’s own beliefs accommodated ancient ideas within a framework that housed man, God, and a pathway to enlightenment. In Ficino’s cosmic model,

man...occupies the mean position, intermediary between the sublunary world and the cosmic spheres, which were governed by pure number for Ficino just as absolutely as for Pythagoras... Ficino invented a lovely and uncommonly satisfying theory: he conceives of musical concerts as possessing a living spirit analogous to that of the human soul and the cosmic spirit.<sup>11</sup>

It was Kircher who advanced Ficino’s ideas further, and “was the first to articulate the Baroque ‘doctrine of the affections,’ according to which the purpose of music was to illustrate or imitate various emotional or affective states.”<sup>12</sup> The basic concept, however, remained the same, that the perfect function of the moving planets—the interworkings of the cosmos, which scientists were learning more about—was due to a type of musical, harmonic perfection. “Using language almost identical to that used by Pythagoras and Plato more than two thousand years before him, Newton saw in the perfect order of music the most apt analogue of the orderly cosmos.”<sup>13</sup> There is therefore a constancy in this idea, throughout

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<sup>9</sup> *ibid.*, p. 108.

<sup>10</sup> *ibid.*, p. 117.

<sup>11</sup> *ibid.*, p. 122.

<sup>12</sup> *ibid.*, p. 135.

<sup>13</sup> *ibid.*, p. 168.

the Baroque period, which aside from manifesting itself in actual performance (see examples above) must have found its way into the theoretical backdrop of aesthetics and compositional practice. James adds that “any composition that has as its primary and immediate purpose the glorification of God must necessarily be concerned with the relationship between man and the cosmos, that is, the great theme rendered as Christian dogma.”<sup>14</sup> “[Bach] believed music to be an essential component of the religion itself, indeed one of its defining characteristics.”<sup>15</sup>

### Influences on J. S. Bach

John Butt considers J. S. Bach to be a “musico-centric” composer, a “view that the very substance of music both reflects and embodies the ultimate reality of God and the Universe.”<sup>16</sup> For “the basic dedication to the glory of God is a commonplace in German music theory up to the early eighteenth century.” For composers like Bach, the essence of glorifying God through music was essentially demonstrating “the late flowering of the Pythagorean view of well-composed music as natural harmony.”<sup>17</sup> Such demonstration, however, was likely not always perceived by the listener (as Hylas' *idea*). For Bach especially, “the cultivation of music clearly *was* a fundamental element of Christian dogma; it was part of the definition of being a Christian.”<sup>18</sup> Butt also sees a reflection of Spinoza’s writings in the music of Bach. Spinoza believed that perfection denoted a greater sense of reality—one which could possess more. Such thought

can be traced not only in Bach’s successive version of certain pieces, but also in his attempts to assemble comprehensive collections of particular genres (e.g. cantata cycles, *Brandenburg Concertos*) or compositional techniques. ... perfections for Spinoza are not to be judged ‘because they please or offend men’s senses, or because they

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<sup>14</sup> *ibid.*, p. 182.

<sup>15</sup> John Butt, “Bach’s metaphysics of music,” *The Cambridge Companion to Bach* (Cambridge: Cambridge University Press, 1997), p. 55.

<sup>16</sup> *ibid.*, p. 54.

<sup>17</sup> *ibid.*, p. 53.

<sup>18</sup> *ibid.*, p. 55.

are of use to, or are incompatible with human nature'; they point directly to—and indeed are part of—the true nature and perfection of God.<sup>19</sup>

“There is certainly a sense in which Bach saw the act of perfecting compositions and completing compositional tasks as a vital, almost ethical, necessity.”<sup>20</sup> Such an example might be his two volumes of the *Well-Tempered Clavier*, for on one level, Bach takes two attempts at approaching perfection in form and in concept. Even though a work such as the keyboard exercises in the *Well-Tempered Clavier* was not church music,

the functional context for music [in general] lies largely in the long tradition of Orthodox Lutheranism, with all its tensions and internal inconsistencies. Bach doubtlessly saw the value of music in his field as indispensable, as indeed he probably also saw its role in royal courts.<sup>21</sup>

“For a court capellmeister or concertmaster, municipal director of music, organist, or cantor” such as Bach,

had in the main himself to supply the ‘utility music’ expected of him. The respective demands on a composer were governed by the well-defined traditions and conventions of the institutions in question, and not infrequently even by the precise ideas of their chief representatives... Thus a musician’s conditions of service...manifested themselves... in the form the composition took. For an understanding of Bach’s music the question of the external circumstances of his work is therefore of great importance.<sup>22</sup>

If one is to suggest that Bach intended one of his so-called secular pieces to embody religious and cosmological themes, one may wonder

did Bach really consider the value and meaning of music to be purely contingent on the use to which it is put and the appropriateness of its

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<sup>19</sup> John Butt, “A Mind unconscious that it is calculating’? Bach and the rationalist philosophy of Wolff, Leibniz and Spinoza,” *The Cambridge Companion to Bach* (Cambridge: Cambridge University Press, 1997), pp. 66-67.

<sup>20</sup> *ibid.*, p. 67.

<sup>21</sup> *ibid.*, p. 71.

<sup>22</sup> Christoph Wolff, *Bach: Essays on his Life and Music* (Cambridge, MA: Harvard University Press, 1991), p. 32.

style for any particular context (as would be suggested by the writings of traditional theologians, theorists, and the new breed of Enlightenment aestheticians), or is it some degree independent of such considerations, something to be valued on account of its craftsmanship and specifically its musical qualities?<sup>23</sup>

Considering Bach's known religious convictions, it seems very likely that all music, realized in perfected form, had a religious significance for Bach. This is corroborated by his own entry into his Calov Bible, where at 1. Chron. 29:21, Bach pens "NB. Splendid proof that, besides other arrangements of the service of worship, music too was instituted by the Spirit of God through David."<sup>24</sup> For Ficino, music was "magical," and for Bach, such "magic" was nothing more than perfected music—an imperfect mirror reflecting the perfection of the Creator. Such an idea was not unique, even in Bach's time; "that earthly music is a foretaste of that in heaven, and that musicians who perform the 'monophony' of earth will soon be performing the eternal 'polyphony' of heaven—is typical of Orthodox Lutheran writings."<sup>25</sup>

Young Bach's musical training, aside from its roots in theory and religion, was grounded in the "practical." Successful musicians in Bach's generation, as those he also taught, had to be versatile and multi-talented.

A glance at the achievements of the pupils of Bach and the surviving testimonials he wrote for them give a remarkable insight into the versatility expected of the more talented practical musicians: most sang, played several instruments and also composed.<sup>26</sup>

Kuhnau suggests, in his *Der musicalische Quacksalber*, that composition and performance went hand-in-hand: "A performer who does not know the rules of composition is no better than a bird; likewise a composer who does not understand

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<sup>23</sup> Butt, "Bach's metaphysics of music," p. 52.

<sup>24</sup> *ibid.*, p. 54.

<sup>25</sup> *ibid.*, p. 51.

<sup>26</sup> John Butt, *Music education and the art of performance in the German Baroque* (Cambridge: Cambridge University Press, 1994), p. 164.

practice is like a dumb orator."<sup>27</sup> One of Bach's own teachers, in particular, was a model for the kind of musician that the social backdrop of Baroque Germany formed into being: Buxtehude. Buxtehude was a musician that fortunately had the capacities to travel and compose in addition to fulfilling several diverse musical duties.

Buxtehude exemplified the ideal type of the universal musician in a number of additional ways. ...he balanced theory and practice. ...scholarly theoretical erudition had belonged among the prerequisites for a preeminent musical office. [Buxtehude's] theoretical background reflected the Italian tradition of Zarlino.<sup>28</sup>

[Bach] did not spend a journeyman period with a single master, but rather took part in an academic program that permitted him to explore what must have been for its time the most attractive organ scene in Germany.<sup>29</sup>

Even so, his connections to such "universal musicians" as Buxtehude was formative for "even for the young Bach, connections with the older generation were already manifold."<sup>30</sup> Solutions regarding composition and representation in Buxtehude's music are not unlike those of Bach; both resist a tendency toward conformity and model individual principles.<sup>31</sup>

Bach's compositional solutions were based in large part on rhetorical components. Such components were based in classical rhetorical theory, rhetoric being one of the other major artforms affected by humanist thought. "Bach had studied Quintilian and constructed his work in accordance with Quintilian's rules..."<sup>32</sup> Such a system that used the rhetoric in the art of music was *musica poetica*. It "thus adopted literary and rhetorical concepts and language to describe

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<sup>27</sup> *ibid.*, p. 163.

<sup>28</sup> Wolff, p. 45.

<sup>29</sup> *ibid.*, 59.

<sup>30</sup> *ibid.*, 44.

<sup>31</sup> *ibid.*, 55.

<sup>32</sup> Nikolaus Harnoncourt, *Baroque Music Today: Music As Speech*, translated by Mary O'Neill (London: Christopher Helm, 1988), pp. 133-134.

and define its own mandate.”<sup>33</sup> Even though *musica poetica* began with an emphasis on text, and how music related to a said text, this emphasis was later placed upon a musically-expressible sentiment or idea.

By the early eighteenth century, *musica poetica*'s emphasis on text expression was superseded by the call to portray and arouse the affections, gradually giving way to the emerging Enlightenment mandate to express an individual's sentiments.<sup>34</sup>

*Musica poetica* therefore is a somewhat important compositional doctrine that I believe applies to the works of the musico-centric Bach. It shall be discussed more specifically below.

With all the theological, rhetorical, and musical tools at his disposal, the *melopoeticus* [composer following *musica poetica*] could move the affections of the listener at will, ultimately to the glory of God and to the edification of the listener.<sup>35</sup>

One last influence on Bach to consider were the philosophies of Leibniz and Mizler. Leibniz developed a concept of the universe rooted in Pythagoreanism. He described music as “a sounding symbol of the cosmic harmony based on mathematical laws,” and in his *Théodicée* of 1710 says “God is all order. He always observes the right proportions, and He is the architect of the universal harmony.”<sup>36</sup> Furthermore, the use of the motive in composition (a fugal subject), a fundamental of Bach’s compositional thought, is mirrored in Leibniz’s theory of the universe and existence of *monads*. The monad was a “living mirror,” a small representative of the universe, which was simple, individualized, and energetic—in a constant state of flux of activity and change. In this model, the immense harmony and order of the universe is accompanied by infinite variety.<sup>37</sup> Therefore, the theory of

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<sup>33</sup> Bartel, p. 23.

<sup>34</sup> *ibid.*, pp. 24-25.

<sup>35</sup> *ibid.*, p. 28.

<sup>36</sup> Edward E. Lowinsky, “Taste, Style, and Ideology in Eighteenth-Century Music,” in *Music in the Culture of the Renaissance and Other Essays, volume 1* (Chicago: University of Chicago Press, 1989), p. 75.

<sup>37</sup> *ibid.*, pp. 74-75.

a universe composed of monads corresponds to how a composition by Bach is structured with contrapuntal motives. Considering that which is heard as a monad, Leibniz likewise put together a theory of musical harmony. He believed

the soul, listening to music unconsciously, counts the beats of the tones, compares their mathematical ratios, and finds them acceptable because the ratios are simple; such a secret arithmetic appears, on the conscious level, as sensuous enjoyment.<sup>38</sup>

Leibniz's ideas circulated among Bach's close circle of friends, including Kirnberger (who still spoke of the three medieval divisions of music—*mundana*, *humana*, and *instrumentalis* in his work entitled *Die Kunst des reinen Stazes in der Musik*, 1779) and Lorenz Mizler. Mizler was the president of the musical society which Bach joined as its fourteenth member late in his life with the submission of a canon. It is quite conceivable that Bach was most familiar with the philosophies of his friends, including Mizler who stated that "the same reason that governs the universe also governs music."<sup>39</sup>

#### Six Concerts avec plusieurs instruments

On March 24, 1721, J. S. Bach signed a dedicatory letter to Christian Ludwig, Margrave of Brandenburg, saying "I noticed then that Your Highness took some pleasure in the small talents with Heaven has given me for Music" indicating once again a connection between music and a religious-cosmic reference. Bach continues by saying, "infer from them [the concertos] in benign Consideration the profound respect and the most humble obedience which I try to show Your Highness..."<sup>40</sup> Pickett has interpreted these lines as such:

I believe that Bach, in collecting together these particular concertos as a special presentation set for the Margrave, was devising for him a kind of musical triumph, a 'procession' of tableaux similar in overall

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<sup>38</sup> Monroe Beardsley, *Aesthetics from Classical Greece to the Present* (Tuscaloosa: University of Alabama Press, 1966), p. 155.

<sup>39</sup> Lowinsky, p. 76.

<sup>40</sup> David and Mendel, p. 83.

plan and intellectual content to the allegorical courtly triumphs...[etc.,]..to celebrate important affairs of state.<sup>41</sup>

Dedications made to aristocratic patrons, in fact, many times refer to the didactic purpose of the music, or how it has been written to delight a man's heart.<sup>42</sup> Pickett therefore states two main premises: (1) the concertos work together, rhetorically, as a set, and (2) in their 'Brandenburg' form, they single out the Margrave as an audience. Pickett likens the collection to *Vanitas* paintings, and believes by writing the concertos, Bach set to honor the Margrave not only in his dedicatory words, but through the music itself. "Bach was honoring the Margrave as an Ancient hero, but the presentation volume was also an object for study and contemplation."<sup>43</sup> Such a view is echoed by James:

It is arguable that Bach's intentions are as well served when the work sits upon a shelf, unread, as when it is performed in some arrangement or other, as a sort of anticipation of the conceptual compositions of John Cage.<sup>44</sup>

Although I disagree with James when he suggests that some of Bach's work was not intended to be performed— "the Goldberg Variations, The Well-Tempered Clavier, and The Art of the Fugue[—] these works were not intended for public performance, and the last was perhaps not intended to be performed at all—the musical equivalent of a thought experiment by Galileo"<sup>45</sup>—I would agree that some of Bach's work could effectively communicate in a visual framework. We have seen in the *B-minor Mass*, for instance, how Bach shapes the figure of a cross on the score through notation, or even in BWV 1050:

Bach even notates the harpsichord in the margrave's dedication score with a larger rastrum than for the other instruments. He may have

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<sup>41</sup> Philip Pickett, "A New Interpretation," in *J.S. Bach: Brandenburg Concertos* ([sound recording] Editions de L'oiseau-lyre 440-675-2, 1994), p. 7.

<sup>42</sup> Michael Marissen, *The Social and Religious Designs of J. S. Bach's Brandenburg Concertos* (Princeton: Princeton University Press, 1995), p. 52.

<sup>43</sup> Pickett, p. 7.

<sup>44</sup> James, p. 194.

<sup>45</sup> *ibid.*, p. 183.

done so more for visual effect than for the practical purpose of making the lines easier to read in performing situations.<sup>46</sup>

Should Bach have been familiar with Aquinas, “who argued that visual metaphor was as important to the acquisition of knowledge as aural, stating that ‘the very hiding of truths in figures is useful for the exercise of thoughtful minds...,’”<sup>47</sup> the score indeed could have been intended, according to Pickett’s second premise, as a score of contemplation for the Margrave.

I would now like to address Pickett’s first premise, how the six concertos work together as a set. Commentators and historians have long attempted to find similarities between the concertos, such as the fact at the opening movements of each of the concertos outline, in their themes, the tonic triad. I consider this particular view rather insignificant. Marissen believes the simple fact that there are six concertos is significant. “The custom of including six pieces in collections of instrumental music in the early eighteenth century is well known.”<sup>48</sup> Furthermore, “The very fact that the word *six* or the numeral 6 appears so conspicuously and so often—typically as the first word—on title pages of these collections suggests that the indication is not merely quantitatively descriptive but somehow more broadly significant.”<sup>49</sup> The significance of ‘6’ was seen in the writings of Zarlino and Johannes Lippius. For Zarlino, “the number six epitomized the formal cause (the ‘sonorous number’) that generated the consonances out of the ‘sounding body’ (e.g., the monochord). The number six was thus also called the ‘harmonious number.’”<sup>50</sup> Lippius called the number the “*primus [numerus] ... perfectus & mundanus.*” Marissen believes that the “worldliness of the number six alludes to God’s creating the world in six days. God was believed to have chosen this

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<sup>46</sup> Marissen, p. 106, footnote 73.

<sup>47</sup> Pickett, p. 8.

<sup>48</sup> Marissen, p. 83.

<sup>49</sup> *ibid.*, p. 83.

<sup>50</sup> *ibid.*, p. 83.

number to signify the perfection and inner harmony of the creation.”<sup>51</sup> This significance, however, is not unique to Bach. Vivaldi published several collections of violin concertos in sets of six, as did Handel in his op. 3 concerti grossi. Nonetheless, “we cannot avoid the conclusion that late seventeenth-century and early eighteenth-century composers understood the use of the number six as a *signum perfectionis*.”<sup>52</sup>

Following *musica poetica*, “ratio was to be used to discern the power of music, to structure musical compositions, and ultimately to control the affections of the listeners.”<sup>53</sup> Bach however rarely satisfied himself with simply imitating the various affects. The affects mesh with the texture of sound, in one way objectified and controlled, “but in another entirely immanent in the notes.”<sup>54</sup> What I suggest is that Bach used ratio, in the form of keys for each of the concertos, as a means of organizing the set. Bach’s contemporary Werckmeister said: “Nothing of the natural order can be discovered in music unless ratio, that is *arithmetica* and *mathesis* first point out the right way.” Such a thought was as old as Plato. He continues: “We call that natural which can be comprehended by sense and ratio...in accordance with God’s creation and ordering of all things.”<sup>55</sup> Baroque composers many times followed a variety of schemes for keys in their works, by either following the circle of fifths, a tetrachord, or like Bach, writing in every possible key (the *Well-Tempered Clavier*). However,

The four keys traversed in the Brandenburg Concertos, all major mode (F-G-D-B<sub>♭</sub>), are symmetrically related to each other as a set; they extend in both directions through the musical circle from an ideal (i.e., non-obtaining) tonal center of C major to key-signature levels with two accidentals.<sup>56</sup>

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<sup>51</sup> *ibid.*, p. 84.

<sup>52</sup> *ibid.*, p. 84.

<sup>53</sup> Bartel, p. 21.

<sup>54</sup> Butt, “A Mind unconscious that it is calculating,” p. 70.

<sup>55</sup> Bartel, p. 17.

<sup>56</sup> Marissen, p. 92.

The fact that all six concertos are in major modes is likewise significant. While Kuhnau described the major mode as “perfect and cheerful,”<sup>57</sup> Werckmeister went further to explain the major mode’s rationality. “A joyful affection requires the more consonant and perfect intervals found in the major keys. ... As an individual longs and strives for wholeness, that is for God, he strives for the unison—[which is] joy and contentment. ... The major triad with its proportions of 4:5:6 is therefore considered more joyful”<sup>58</sup> because it is closer to a unison interval. Such a scheme of key centers takes on significance when we look backward and consider once again the work of the Renaissance humanists.

Two persons in particular, Fludd and Kircher, likened harmony to more metaphysical concepts. “Fludd asserts an underlying harmony and congruity between the universe, which he calls the macrocosm, and man, the microcosm.”<sup>59</sup> Fludd is aligned with Philonous (see beginning of paper) because for “Fludd, everything that existed, or that could be thought of, had its place not only in this world but also a parallel, by virtue of mystical kinship, in every other realm.”<sup>60</sup> What he did to realize this was construct a ‘Divine Monochord.’ Unlike a monochord which only reflected the ratios of intervals, this encompassed a cosmic scheme of harmonies.

The scheme begins with low G, which is the earth, ascending to middle C, at which point God makes his appearance, and thence upward to high G, which is the most exalted division of the empyrean.<sup>61</sup>

If we compare this to the scheme used by Bach, two concertos are in G major, while none are found to be in C major. I would like to suggest that Bach, familiar in some degree with Fludd’s device, enacted the harmony of the divine monochord

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<sup>57</sup> Bartel, pp. 41-42.

<sup>58</sup> *ibid.*, p. 49

<sup>59</sup> James, p. 129.

<sup>60</sup> *ibid.*, p. 133.

<sup>61</sup> *ibid.*, p. 129.

through his harmonic plan<sup>62</sup>. While Bach believed he could not achieve absolute perfection (C major) he does approach a metaphysical “high position” in the third concerto, by enacting the concept of the harmony of the spheres. If Pickett’s assumption that the other G-major concerto (BWV 1049) portrays the allegorical story of Apollo in contest, Bach furthermore could be contrasting on a low level a pagan story, with a very religious one—BWV 1048 in the highest position along Fludd’s monochord. Although it is “score study” which illuminates these details, we should not forget that the ears, according to Descartes, are a final judge. Kepler wrote:

Thus while the harmony of the cosmos is perceived by the intellect, the ears could nonetheless be used to provide some clues as to essential parts of its mathematical superstructure.<sup>63</sup>

In effect, I believe Bach chose to reflect this superstructure and specifically illuminate the Pythagorean concept in his third concerto. It is in the third concerto that Kircher’s ideas take the spotlight.

The influence of humanist-metaphysical thought may not be as evident as that of Vivaldi and the Italian style on Bach’s music.

Bach recognized and realized that Vivaldi’s concertos reflected a concrete compositional system based on a process of musical thinking in terms of order, continuity, and proportion.<sup>64</sup>

When we begin to analyze Bach’s *Brandenburg* set, however, the concept of the “concerto”—either in a working together, or working against—is not always clear, as in examples by Corelli and others. Specifically, the German musicologist Rudolf

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<sup>62</sup> If we assume, as many scholars do, that the Brandenburg collection is not a set of original works written specifically for the Margrave, but rather a piecing together and arranging of pre-existing works for the purpose of presentation, it might explain why although Bach is following a harmonic sequence among the concertos, a precise order with the concertos in G in first and last order is not maintained. I also suspect that the order in which the concertos are presented has a rational basis; although I am not prepared to explain such an order in relation to the ‘harmony of the spheres,’ I imagine Pickett’s idea of a processional-presentation deserves some consideration.

<sup>63</sup> *ibid.*, p. 150.

<sup>64</sup> Wolff, p. 74.

Eller believes Bach, in connection with the Dresden court, came to admire Vivaldi's various *Concerti con molti Istromenti*, which

provided a major impetus for composing the *Brandenburg Concertos*. These works, which have as little in common with the concerto grosso as do Vivaldi's compositions, also occasionally have 'scoring consisting of a dominant solo instrument with a concertino-like group or groups' and the overridingly important 'formal idea of ensemble playing on two levels.'<sup>65</sup>

As I shall discuss below, it is these relationships which may reveal Bach working out the hierarchies of *musica mundana*, *musica humana*, and *musica instrumentalis*.

It is true that German composers personally known to Bach, like Georg Philipp Telemann and Johann Georg Pisendel, wrote Vivaldian concertos with various, even peculiar, combinations of wind, string, and brass instruments... what I took to be significant was not the mere presence of rich combinations of instruments in Bach's concertos (similar to his German contemporaries, especially in Dresden) but his treatment of the scorings (rather different from the German contemporaries). ... I viewed Bach's music to reflect less a straightforward continuation of the orchestrational practices of his native colleagues than an unprecedented critical commentary on the structures of courtly hierarchy.<sup>66</sup>

I suggest that Bach did in fact comment on hierarchy, but on a cosmological, rather than courtly, level.

One possible model for Bach's portrayal of hierarchies in BWV 1048 is the 'Enneachord of Nature' constructed by Kircher.

An enneachord is a nine-stringed instrument; Kircher describes 10 of them, each attuned to a different class of objects of qualities. The principal enneachord is tuned according to the ancient Greek system of harmonic proportions, which are identified in the usual way with the planets and the fixed stars... in first position is the enneachord devoted to the hierarchy of heaven, with God occupying the highest position.<sup>67</sup>

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<sup>65</sup> Karl Heller, *Antonio Vivaldi: The Red Priest of Venice* (Portland, Oregon: Amadeus Press, 1997), p. 246.

<sup>66</sup> Marissen, p. 10.

<sup>67</sup> James, p. 137.

Based on this model, I believe Bach represents the “principal” enneachord as the 10th line of his score, the basso continuo. After all, the basso continuo is the foundation of harmony. The concept of the string ensemble as a single strung device (an enneachord) with the proportions of 3 violins, 3 violas, and 3 cellos, likens itself to such a device. Furthermore, I believe Bach could have treated each instrument as one of the 10 different enneachords, with the first violin representing that in “first position.” Within the first movement, mm. 91-96 (interestingly a length of six measures—the *numerus perfectus*), it is the first violin which dominates the texture, rising above all other lines.<sup>68</sup> In contrast, other “solo” sections of the score, as in mm. 108-110 of the same movement, toss the solo among instruments in the same class (among violins, in this example). In addition to possibly following Kircher’s model of the enneachords, I believe Bach, in the same vein as Pythagoras, represents three different classes. The 3 violins represent the concept of *musica mundana*—the most perfected hierarchy. The violas, in contrast, form a second class, *musica humana*. Lastly, the three cellos represent the *musica instrumentalis*. “The same cosmological relationships which exist between God and his creation are also to be found between the three musical orders.”<sup>69</sup> This view corresponds with Marissen’s own observation:

There is a great deal of textural contrasting between various subgroups and the entire ensemble (e.g., by the three violins, the three violas, or the three cellos and also by single members), but there is no real sense of struggle associated with any single part of the ensemble’s attempting to take the center of attention. Bach appears here to have leveled the conventional stratification of the eighteenth-century string ensemble. Rather than feature active violin lines, relatively active bass lines, and much less active viola lines, Bach treats each of the string

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<sup>68</sup> Due to the popularity of the work, and the frequency of examples here, I assume the reader will have access to a score of BWV 1048. For analysis, I used the 1976 Dover Edition, grafted from the *Bach-Gesellschaft* (Leipzig, 1871).

<sup>69</sup> Bartel, p. 15.

instruments equally overall while continually rearranging their hierarchy for given moments.<sup>70</sup>

The hierarchy of the three classes (instrumental groups) is made apparent in other parts of the concerto as well. In mm. 8-10 of the first movement, a motive in the violins is passed down the score, first to the violas (m. 9), then lastly to the cellos (pickup to m.10). After a ritornello-like statement in mm. 12-14, the procedure is again repeated in mm. 15-17. Again, with a different motivic figure, in mm. 31-33, the violins pass the running semiquavers to the violas in mm. 33-35, and the violas to the cellos in mm. 35-37. Viewed as the three levels of music, these classes seem to “reflect” the same ratios, just as *musica instrumentalis* reflected a more perfected form of *musica mundana*. Measures 97-99 order things differently, now the hierarchy is split not only on a macro-level (between the instrumental classes) but between the individual members of each class (first violin is paired with first viola, etc.) It is most likely no mistake, as well, that the number three is manifested continuously in the movement, as well as the entire concerto. Pickett makes note of the number three when he describes the third concerto as “‘a fanatical obsession with numbers’ or ‘a reflection or meditation on the Trinity.’”<sup>71</sup>

Pickett specifically views the first movement of BWV 1048 as

a musical portrayal of the speculative series of three octaves which, to the music theorists and philosophers of the sixteenth and seventeenth centuries, represented the nine orders of Angels in the Empyrean Heaven, the nine Spheres of the Ethereal Heaven and the nine regions of the Elemental World.<sup>72</sup>

The second *Allegro* of the concerto is in compound 12/8 time. The number three here is manifested in a subdivision of rhythm. The bass line in this

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<sup>70</sup> Marissen, p. 104.

<sup>71</sup> Pickett, p. 12.

<sup>72</sup> *ibid.*, p. 12.

movement at times suggests the bounce of a dance movement, or specifically a *gigue* with an emphasis on beats one and two (mm. 11-12). Mattheson wrote that

Triple time, symbolizing the Trinity—and therefore perfection—is commonly used, especially in conjunction with faster moving dance forms....swift leaping consonances will effect a similar movement of the *spiritus animales*, ...is a far more natural affection than sorrow.... 'friend of life and health.'<sup>73</sup>

This movement alters the hierarchies of instrumental classes from those already seen in the opening movement. While the trade-off of motives still takes place at the micro-level (mm. 17-18) and at the macro-level (mm. 18-19, violas and cellos) the cellos have now become a unison band. In effect, they have become unified with the harmonic eneachord, the basso continuo line. The proportion thus created, 1:3 (the cellos compared to the rest of the ensemble at the macro-level) is likewise reflected in the 1:3 ratio in the formal structure of the binary movement (mm. 1-12 are repeated, then mm. 13-48 are repeated). "In some ways Bach's works are better expositions of the great theme of celestial harmony."<sup>74</sup> In effect, I believe by reducing the lowest, human-class of the cellos to one, Bach is illuminating man's (if not Christian Ludwig's) relationship to God. He may also be symbolizing, by the ratio 1:3, the fact God was one in the same: father, son, and holy spirit.

The second *Allegro* also differs in one other respect to the first movement. In certain instances, the first violin is separated from the texture with an independent part (mm. 11-12, 15-16). Aside from the pragmatic possibility that such a line might be harder to play, and be best handled by one player, it further illuminates once again especially, simply by looking at the score, the ratio 1:3. Furthermore, the ornamental 32nds in mm. 15-16 are limited to the first violin throughout the movement. Such embellishments

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<sup>73</sup> Bartel, p. 50.

<sup>74</sup> James, p. 180.

are also used to better express the affections. Through the use of appropriate and agreeable embellishments, the composer would be able to intensify his composition, 'as though the notes had come alive. Even his textless melodies have to captivate and move the listeners. And so he must bring all the passions and affections under his control, continually being able to stir the listeners anew.' [Sheibe] then praises various composers for their extraordinarily expressive use of the embellishments, including Hasse, Telemann, and, in particular, J.S. Bach.<sup>75</sup>

Such an independent line, in fact, I believe was intended to be more affective to the listener, and perhaps represent the highest hierarchical order, closest to God. "Music thereby becomes an audible manifestation of the Divine, reflecting the creative mathematical principles which lie at the heart of the universe as well as the proportions and the relationships of the human mind, body, and spirit."<sup>76</sup>

One performance problem musicians have sited in connection with BWV 1048 is a lack of a "true" second movement. While some have viewed these two *Adagio* chords, II<sup>6</sup> and V of vi in G major (perhaps the remnants of an actual lost slow movement) as a palette for improvisation, or simply an unfit movement substitute, others such as Reinhard Goebel believe they function perfectly, performed as written.<sup>77</sup> Considering the perfection Bach demonstrated with the rest of the concerto collection, it is most probable that a missing "full" movement has its basis in reason—that based in a cosmological, rhetorical framework. Composers in the Baroque typically changed tempo indications (which the *Adagio* properly is, and not "movement") to signal the change of an affection. Mattheson explains that "this purpose must always be visualized when a composer sets his *adagio*, *andante*, *presto*, etc. Then his work will be a success."<sup>78</sup> While Pickett

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<sup>75</sup> Bartel, p. 152; originally from J. A. Scheibe's *Der critische Musikus* (Leipzig, 1745), p. 643.

<sup>76</sup> *ibid.*, p. 16.

<sup>77</sup> See the booklet notes to Goebel's recording: *Musica Antiqua Köln, Brandenburgische Konzerte 1-2-3* (Archiv Produktion 431 701-2, 1987).

<sup>78</sup> *ibid.*, p. 47.

believes the two chords “which separate the movements were meant to suggest the concept of duality, essential to cosmic manifestation—Alpha and Omega...,”<sup>79</sup> I believe they most likely more demonstrate again the hierarchy of three types of music. While the first movement may reflect the concept of *musica instrumentalis*, and the second *Allegro musica humana*, the most perfected form, *musica mundana* may be avoided altogether either because it cannot be concretely realized, or because the entire Brandenburg collection already represents it. More likely the middle *Adagio* represents Ficino’s position of man in the world, between the depths and the cosmic heavens.<sup>80</sup> The correspondences between music and the hierarchy of existence, in fact, was something illustrated in such charts, lyres, and cosmic monochords, like Fludd’s.<sup>81</sup> Although only two chords, the *Adagio* may in fact be a manifestation of the *musica mundana* if we consider one theory. The harmony of the spheres in essence was a means by which the planets rotated and followed elliptical paths in space. The *Adagio* in essence connects the outer movements—it becomes a pathway.

Fundamental to [the idea of moving one’s affections] was the belief that all creation is rooted in, reflects, and longs for a natural order, the *unitas*, which is the essence of the Creator himself. Music would reflect this universal order by virtue of its harmonic proportions.<sup>82</sup>

Considering the *Adagio* is in effect a harmonic device (two chords) and does serve to unify the concerto, it is now conceivable why it exists in the form it does. It may have well been Bach’s best rhetorical solution. I also see the movement as another form of unity. First it unifies the first movement to the second; second it unifies two movements in G (the polar ends of Fludd’s monochord, while avoiding C major (IV in G)); third it unifies the concept of man and the holy spirit (the first

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<sup>79</sup> Pickett, p. 13.

<sup>80</sup> See footnote 11.

<sup>81</sup> *ibid.*, p. 13.

<sup>82</sup> Bartel, p. 33.

movement representing a lesser form of perfection than the second). The related fact that Aristotle called for three unities in drama is probably not insignificant. That we can formulate three unities at all further demonstrates Bach's numerological-effect of the number three.

### Bach as Musical Poet

Interpreting the Brandenburg Concertos in terms of extramusical implications of relationships between the forms and the scorings has exposed a partly didactic character in Bach's court-entertainment music—that is, in works that have come to be considered 'pure' of the sorts of references confronted in his more obviously applied much such as the cantatas written for the Lutheran liturgy. ... Bach had, it seems, a much broader view of what would constitute 'texts,' and he had the requisite skill and imagination to produce instrumental music that referred to them.<sup>83</sup>

In order to construct such a "broad view" of music, and music composition, I believe Bach practiced *musica poetica*, elegantly defined by Walther as "the name given to musical composition, or the art of inventing melodies and arranging consonances with dissonances."<sup>84</sup> I have assumed as much thus far in my study for

...*musica poetica* then gradually embraced virtually all of rhetoric's principles and procedures....While the focus of the musical-rhetorical figures was initially on the text, the expression of the affections through the figures gradually gained prominence, eventually replacing the text's dominating role.<sup>85</sup>

Nevertheless, Bach never forgot that music was a science, that Lang says "whose purpose is to make people laugh and sing and dance."<sup>86</sup> It was not that *musica poetica* had to only serve the glory of God alone, for Bach too wrote quite humorous and affective music, such as the Quodlibet, BWV 524: "Hey, why do the servants eat so much cheese and butter?"

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<sup>83</sup> Marissen, p. 119.

<sup>84</sup> Bartel, p. 26.

<sup>85</sup> *ibid.*, p. 23.

<sup>86</sup> *ibid.*, p. 19.

Music written according to this “poetic” practice could result in an understanding of

ultimate truth, the very core of nature. Thus human artful and rational improvements, reprojected upon nature, could illuminate the true essence of nature, realizing in the end that which the Creator had originally intended according to ‘measure and number and weight.’<sup>87</sup>

Why would Bach, however, go to such lengths to honor the Margrave? First, with Bach’s experience with his patron Duke Wilhelm Ernst of Saxe-Weimar, he knew he was “a man very devoted to the arts, above all poetry, painting, and music” and like many other such Germans, had the taste for the newest kinds of music, which was usually Italian in style.<sup>88</sup> Second, following Pickett’s idea of allegorical representation in music, Bach was not a stranger to such thought. His *dramma per musica*, “Der Streit zwischen Phoebus und Pan,” BWV 201, was full of allegorical imagery and was probably performed in the same contexts as Bach’s *Brandenburg Concertos* (at Collegium Musicum concerts).<sup>89</sup> Third, considering the average “German Baroque composer still viewed the act of composition as a craft rather than an aesthetic undertaking... music was taught by learning the rules, studying the established examples, and imitating the works of the masters,”<sup>90</sup> by applying such a complex set of *loci topici*, Bach set out to prove his ability to write quality music. After all, the tone of his dedicatory letter suggests he was after employment.

Bach’s own religious beliefs were reasons enough to follow the theory of *musica poetica*, for “Luther’s theology of music prepared the way for the unique and thorough German adaptation of rhetorical principles and procedures, including a systematic development of the concept of musical-rhetorical figures.”<sup>91</sup> In the case

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<sup>87</sup> *ibid.*, p. 21.

<sup>88</sup> Wolff, p. 33.

<sup>89</sup> *ibid.*, p. 227

<sup>90</sup> Bartel, p. 34.

<sup>91</sup> *ibid.*, p. 58.

of BWV 1048, as I have suggested here, theological concepts even became the *loci topici* for Bach to express through musical gesture. For Bach, “Both music and the word were to teach; both stood in the service of proclaiming the Christian Gospels.”<sup>92</sup> I believe Bach was the type of composer

who believed that every theme and formal strategy brings with it a host of implications that can be realized sequentially or in combination and that the completeness or perfection of any particular piece of music lies in the satisfaction of the entire potential of the musical idea.... Birnbaum [used the German term] ‘Vollkommenheiten’, a term that effectively unites the concept of honest craftsmanship with a rather more metaphysical sense of ‘perfection,’ as if the music acted as an immanent realization of cosmic necessity.<sup>93</sup>

I suggested at the onset that Bach had come to culminate the Baroque era. Bach likewise was one of the last to adhere to *musica poetica*, which

was rooted in the expression of objective and generally valid affections instead of subjective and individualized feelings. Its purpose—to edify the listener to God's greater glory, a theologically relevant precept to which Mattheson still ascribed—was quite unacceptable to late-eighteenth-century positivist philosophy, which denied the existence of the metaphysical and limited itself to human experience.<sup>94</sup>

### Final Consideration

Bach's adoption of formal and structural means to realize Lutheran ideals and rhetorical communication of affect can be considered the “German” side of Bach's personality. Nevertheless, many commentators and historians have commented more on Bach's adoption of Italian, and specifically Vivaldian forms and models. Italian music, however “rejected... numerological and cosmological significance in favor of its direct affective and aesthetic effect...,” where “gesture

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<sup>92</sup> *ibid.*, p. 58.

<sup>93</sup> Butt, “Bach's metaphysics of music,” p. 57.

<sup>94</sup> Bartel, pp. 157-158.

and declamation” were of prime importance.<sup>95</sup> By such a synthesis, Bach approached music that was natural, “meaning those ideas which must, by their profundity, their connection, and their organisation, meet with the acclaim of any taste, no matter what country.”<sup>96</sup> Likewise,

he saw music ‘under a certain species of eternity,’ and that, while he was aware of the changing tastes and styles of his age, he thought of his music as a timeless art that transcended nation and time.<sup>97</sup>

In his third *Brandenburg Concerto*, as I have tried to demonstrate, it is Bach’s own native influences which outweigh the “direct-affect” of Vivaldi’s style, for Marissen remarks “this concerto might be said to employ only the outer segments of the *fortspinnung*-type ritornello model”<sup>98</sup> so important to the form of Vivaldi’s concerto canon. In addition, I believe Bach’s understanding of humanist philosophy, combined with Lutheran theology, unequivocally defined music as a means of representing religious experience. Such a timeless idea as the *harmonia mundi*, brought to the forefront of theoretical musical thought by Nicholas de Cusa and Marsilio Ficino, explored empirically by Kepler, and used thematically later by Metastasio was a keystone in the philosophy of Bach’s musical circle, including Leibniz and Mizler. Within the social context Bach found himself, honoring a possible patron-to-be, he inevitably combined both his more practical knowledge grafted from the experiences with Buxtehude and his own personal devotion to God.

If Bach did indeed base a concerto for strings on the concept of the harmony of the spheres, such a basis for musical composition would not be unique. Bach’s musico-centricity, demonstrated by the immense quality of his output, suggests he was alone a profound musical thinker—in part a product of the age in which he

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<sup>95</sup> Bartel, pp. 63, 59.

<sup>96</sup> Butt, “Bach’s metaphysics of music,” p. 59.

<sup>97</sup> Butt, “‘A Mind unconscious that it is calculating,’” p. 70.

<sup>98</sup> Marissen, p. 88

lived. Furthermore, John Butt suggests “the intensity and sophistication of Bach’s musical thought matches that of the most outstanding philosophers of the age.”<sup>99</sup> Seemingly while other composers chose to represent nature through music in tongue-in-cheek fashion<sup>100</sup>, Bach formed music clearly in the representation of nature as he not only saw it, but believed it to be.

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<sup>99</sup> Butt, “A Mind unconscious that it is calculating’,” p. 71.

<sup>100</sup> here I consider the barking dog in Vivaldi’s *Spring* concerto, or the frog in Biber’s *Sonata solo violino rappresentativa*, among countless others.