Musica Caelestia: Hermetic Philosophy, Astronomy, and Music at the Court of Rudolf II

Dissertation

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Abstract

This study centers on the intellectual exchanges among scientific, magical, and musical practitioners at the court of Holy Roman Emperor Rudolf II in Prague between 1580 and 1612. Many prominent alchemists, astrologers, and spirit conjurers called Prague home, where they worked alongside influential scientists and one of the largest musical institutions in Europe. Rudolf’s court was an ideal atmosphere for hermeticism, a philosophical branch that saw celestial movements as having direct influence on earthly matters. It was a philosophy to which multiple modes of thought contributed: astrologers measured the influence of planets and zodiac signs, astronomers tracked the movements of the planets, and music theorists provided ratios that unified the divine system.

I contend that Rudolf’s composers were not only aware of hermetic philosophy, but at times actively incorporated specific elements into their musical works. To support this argument I concentrate on three principal issues. First, I provide analysis of the music written by the Rudolfin composers, as well as their interactions with intellectual life in Prague as it relates to their musical style. Second, I explore how the array of scientific and mystical influences, especially the heightened interest in Hermetic astronomy and Cabbala, manifested itself in Prague’s musical environment. Finally, I investigate the ways in which the development of music theory and musical styles in Prague influenced astronomical, alchemical, magical, and astrological thinking, thereby demonstrating a mutual influence between the musical and hermetic spheres in Rudolf’s court.
Dedication

For my mother, father, and brother,

and

for Rebecca Lynn, most of all
Acknowledgments

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Music
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Introduction

“Follow me, modern musicians, and express your opinion on this matter by means of your arts,” wrote astronomer Johannes Kepler in the fifth book of his *Harmonices Mundi*.\(^1\) Having demonstrated that orbital speeds reflect divine musical ratios, he called for a partnership between scientist and composer to declare the beauty and reason of God’s creation through translation of his theories into musical polyphony. Kepler was one of many hermetic scholars working around the turn of the seventeenth century, proclaiming a system in which life on earth reflected and was influenced by movements of celestial bodies. His fellow thinkers included philosophers, alchemists, astrologers, astronomers, magicians, artists, and music theorists, and together they proposed inclusive schemes of interconnections between planets, animals, bodily humors, minerals, and zodiac signs. Several of these scholars, including Kepler, coordinated these structures with the elements of music, and wrote that if it was properly composed music could have a divine power that would affect events and people.

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The question that stirred research for this dissertation was a simple one: did any composers knowingly and purposively incorporate elements into their music that reflect these systems of correspondence? Several musicologists have recently discussed the close relationship between hermetic philosophy and musical communities in the Renaissance, including Joscelyn Godwin, H.F. Cohen, D.P. Walker, Gary Tomlinson, and Penelope Gouk, but most of their work has centered on how philosophies of music adapted to hermetic thinking, or how mystics and scientists incorporated music into their own practice. These studies are valuable, and indeed my own research would have been impossible without them, but an answer to the question remained elusive.

In order to search for an answer I decided to choose one location where hermetic philosophy was especially prevalent and concentrate on the composers, magicians, astrologers, and alchemists that called that place home. The choice quickly presented itself: Prague under Holy Roman Emperor Rudolf II. The “Zauberer König” (Wizard King), as he was known, had moved his throne from the traditional seat of the Habsburgs in Vienna to Prague in 1583, and then opened his doors to scholars, artists, and mystics who were not welcome elsewhere. Under Rudolf’s patronage, safe from the threat of inquisition and religious oppression, intellectuals and artists worked in constant collaboration in what had become Europe’s primary center of hermeticism.

When I began to research music from Rudolf’s Prague, however, I found a striking disconnect between the scholarship performed by musicologists and the histories produced in other fields. In nearly every general history of the city, specific studies of Rudolf’s reign, and analyses of artistic styles and scientific developments in Prague, the
influence of magical and hermetic thinking is either featured prominently or positioned as a background for specific investigations. Several volumes have been written specifically on the many hermetic and occult figures who worked in Prague, and studies that are not explicitly on hermeticism in the city often take into account the rich and varied intellectual life. Historians of politics, art, science, magic, religion, and culture seem to have reached the same conclusion: it is inadequate to discuss Rudolf’s court in depth without at least some examination of the hermetic intellectual atmosphere.

The same is not true, however, for musicological studies of late-Renaissance Prague. While there have been several important works of music scholarship that form the basis of my own study, discussions of hermeticism have been brief, and they play almost no role in investigations of musical life or analyses of specific compositions. Erika Honisch’s recent dissertation on sacred music in Prague, for example, while providing a needed exploration of the interactions between musicians and the church hierarchy, makes almost no mention of hermetic thinking at the court, which permeated Jewish and Christian beliefs in the city. Robert Lindell and Carmelo Comberiati acknowledge the mystical nature of the court, but they do not factor it into their large-scale arguments regarding musical style or their interpretations of select musical works. This silence towards discussion of the hermetic atmosphere and its interaction with music is understandable, as magic and hermetic philosophy are not topics that immediately avail

themselves to musical inquiry, but to discount the issue limits our ability to understand music’s place in the intellectual culture of Rudolf’s court. I attempt to fill this lacuna and bridge the gap between musicological studies of Prague and the numerous other scholarly fields that have recognized the importance of hermeticism in the city. What follows is not a comprehensive overview of music at the court, therefore, but rather a study of its place in the intellectual culture of Prague, in both specific works of composers as well as music’s role in hermetic writings by alchemists, astrologers, and magicians.

The first difficulty I confronted, despite the examples just mentioned, was that relatively little scholarly work had been done on music from Rudolf’s court and few of the compositions had been transcribed into modern notation. In order to examine the interactions between hermeticism and music in Prague, therefore, I first needed to investigate music at the court as a whole. I proceeded to transcribe and analyze over 100 compositions into modern notation over a two-year span that included a year working in Vienna, and then several months in Poland, Germany, the Library of Congress in Washington D.C., and the Czech Republic. A large percentage of what follows, consequently, has little to do directly with hermetic thinking, but serves the necessary purpose of introducing the musical culture as a whole, as a framework for understanding the work of hermetic composers and musical thinkers.

In the following chapters I concentrate on three primary topics, which are interwoven into one continuous survey. First, I provide an examination of the Rudolfine composers and their interactions with intellectual life in Prague as it relates to their musical style. I offer brief biographies of lesser-known composers as well as examples of
their work, most of which are given here for the first time in transcription. Included in these examinations is the heretofore unexplored relationship between Rudolf’s most famous composer, Philippe de Monte, with Neo-Latin poet Elizabeth Jane Weston and her sooth-saying alchemist step-father, Edward Kelley (pages 124-28). Also considered is the reluctant acceptance of secular music by Jacobus Handl (pages 207-15), Kryštof Harant z Polžic a Bezdružic and pilgrimage music (pages 305-07), and Carolus Luython’s settings of mystical texts by Georgius Bartoldus Pontanus a Breitenberg, Dean of the Cathedral in Prague, and later editor of a large collection of astrological writings and predictions (pages 164-82).

Second, I explore how the vast array of scientific and magical influences, especially the heightened interest in hermetic astrology and mysticism, manifested itself in music from Rudolf’s court. To that end, profiles are given of the major hermetic figures in Prague, along with overviews of their schemes that involve music theory or philosophy. I then apply these hermetic models regarding music to works by the Rudolfine composers to search for specific instances where adoption was likely. The level of this influence varies, and includes dedications filled with hermetic language and chordal structures dictated by hermetic astrology in select compositions by Philippe de Monte (pages 128-41), an astrologically accurate musical depiction of the Great Comet of 1577 by Camillo Zanotti (pages 226-36), Cabbalistic numerology incorporated in Luython’s Lamentationes (pages 307-315), and Luython’s inclusion of Kepler’s astrological writings in Missa super basim: Caesar vive (pages 315-357).
Finally, I investigate the ways in which the development of music theory and styles in Prague influenced astronomical, alchemical, magical, and astrological thinking. These include Michael Maier’s combination of alchemy and polyphony in *Atalanta fugiens* (pages 51-54), Giordano Bruno’s assessment of the modes as a medical tool capable of curing various afflictions by balancing the bodily humors (pages 80-91), and the development of astrological and astronomical theories as influenced by contemporary music theory in the many writings of Kepler (pages 359-98).

Interactions between hermetic philosophy and musical practice and theory in Prague has heretofore received almost no attention in musicological literature, even though scholars in other disciplines regularly acknowledge the importance of hermeticism in the intellectual life of the city. It is my contention that music played a significant role in the dominant hermetic philosophy in Prague, and that conversely some composers attempted to integrate specific hermetic elements into their music. The following chapters will first introduce the principal hermetic figures, then their specific theories regarding music. Next I explore all of the known Rudolfine composers, making a distinction between compositional styles before and after 1600. I end considering the musical writings of Kepler and the influence of music theory on his astronomical discoveries.
Chapter 1

Prague and the Hermeticism around Emperor Rudolf II

He supposed he should commend himself to the mercy of God, but faithful Catholic that he was, he did not believe in the flames of hell, although he had seen several times, once dancing to the tune of a pipe on Petřín Hill, Satan. What Rudolf believed in was oblivion, not to feel, not to know, above all not to suffer. Yet when first conceived, it was exactly the idea of suffering which served as obstacle. For the truth of it was that he was afraid of heights, hated water, did not relish ropes, cords of any sort. And the sight of blood, particularly his own, sickened him, which was why he had a Paracelsian physician. No bleeding or leeching for him. Pills, herbs, tonics, that was his medicine. And the battlefield, jousts, tournaments, fencing matches he, as monarch, was required to attend, were graced with his presence only from an imperial distance. When hunting, he averted his eyes from the butchery. He had his meat well cooked. Nevertheless, blood it would be, quick and certain, for here he was, holding his wrist over a bowl filled with sawdust, razor in the other hand, looking away.¹

Thus is Rudolf II (1552-1612), Holy Roman Emperor, King of Bohemia and Hungary and perhaps the most enigmatic ruler of his time, introduced to the modern historical-fiction reader in Frances Sherwood’s The Book of Splendor. Rudolf’s suicide attempt fails, but it begins a quest to discover the elusive philosopher’s stone, the magical material that can create wealth and prolong life that was the goal of many an alchemist in Rudolf’s time. Against the backdrop of Prague Castle, the main story concentrates on Rudolf’s unceasing quest for immortality, as well as on Rabbi Judah Loew ben Bezalel’s creation of a golem, an anthropomorphic being, out of mud from the banks of the river Vltava, to protect the Jewish community. Sherwood fills her novel with several

mysterious and fascinating characters from Rudolf’s court, attempting to capture the
spirit of magic and wonder of late Renaissance Prague. The dates are sometimes
inaccurate; English soothsayers John Dee and Edward Kelley arrive in 1601 in
Sherwood’s novel, though their actual journey to Prague occurred nearly twenty years
earlier and Kelley himself died in 1597. Overall, however, Sherwood’s novel illuminates
the magical atmosphere of Prague under one of Europe’s most fascinating emperors.

Sherwood’s novel also illustrates the modern fascination with Rudolf II, one that
often blinds us as to the real issues of his court. How could a Holy Roman Emperor, one
of the most powerful men in Europe, have wasted his time collecting magical talismans
from around the world, insisted on intense secrecy in his wifeless and heirless private life,
maintained and experimented in his alchemical laboratory, and shut himself off from the
rest of the world to spend countless hours with his collections of art, flowers, and
animals? How could the empire survive with such a man at the helm? The answer,
provided by history, is “not very well.” Soon after Rudolf’s reign, and in part because of
his inability to resolve mounting religious tensions, Europe was thrown into the Thirty
Years’ War (1618-1648), the most deadly conflict in Central Europe before the World
Wars of the twentieth century.

To judge Rudolf and his rule on the grounds of later history, and by modern
conceptions of what qualities a ruler must possess, however, is in some ways unfair to the
melancholic Hapsburg. For Rudolf’s reign occurred during a different time, before the
dogmas of science and reason trumped those of faith and mystery. Indeed, Rudolf’s
consistent forays into the occult might have seemed a natural way to lead his empire. His
alchemists promised him gold that he could use to supplement his depleting revenue, and medicine that could be used to heal his fighting troops. His philosophers promised him peace through a divine connection with the powers of the celestial spheres and the ancient knowledge of the Egyptians and Greeks. His artists and musicians depicted such a world during a time when both arts were reported to have magical effects. What emperor would not wish for endless wealth and divine peace?

Due to Rudolf’s constant pursuit of these goals and his own personal obsessions, Prague was soon established as a cosmopolitan capital of science, magic, and mysticism. R. J. W. Evans brought renewed attention to the court in his Rudolf II and his World: A Study in Intellectual History, 1576-1612 of 1973, offering a new perspective on the Emperor.2 Evans’s appraisal has more or less become the standard, though much of what has been done in the past thirty years has either been intended for more popular audiences, such as Peter Marshall’s The Magic Circle of Rudolf II: Alchemy and Astrology in Renaissance Prague (2006),3 or involved case studies of particular aspects of the court, such as the artistic, architectural, historical studies of magic that have been conducted in recent years.4 Indeed, the work of Evans seems to have inspired many of

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these later writings, including previous studies of musical life at the court such as that of Carmelo Comberiati, and even the present dissertation.⁵

Evans identified three ways in which Rudolf tends to be presented in historical studies.⁶ First is his portrayal as an incompetent and impoverished ruler, thoroughly unequipped to handle the complex diplomatic, religious, and political trials of the late sixteenth and early seventeenth centuries.⁷ This Rudolf is at least partly to blame for the Thirty Years’ War, as his inability to strike lasting peace between Catholics and Protestants led to violent conflict beginning with the famous defenestration of Prague. This Rudolf ended his reign with a forced abdication, and imprisoned by his younger brother Matthias, following years of conspiracy and spying by his own advisors that Rudolf was unable to prevent.

Second is the portrayal of Rudolf as a great patron of the arts and sciences. Rudolf famously granted astrologer Tycho Brahe his own island, castle, staff, salary, and exorbitantly expensive equipment for performing astrological observations. Brahe’s assistant, Johannes Kepler, would later use the resulting data to found modern astrology and lay the groundwork for Newtonian physics. This Rudolf also supported numerous resident artists, and commissioned and collected works of painters and sculptors from all across Europe. Giuseppe Arcimboldo, Bartholomeus Spranger, and Aegidius Sadeler are a few names from the impressive list of artists who worked under Rudolf the patron. The

⁵ Carmelo Comberiati, Late Renaissance Music at the Habsburg Court: Polyphonic Settings of the Mass Ordinary at the Court of Rudolf II (1576-1612) (New York: Gordon and Breach, 1987).
⁶ Evans, 1-4.
⁷ Will and Ariel Durant, for example, describe Rudolf’s reign as follows: “Absorbed in science in his palace at Prague he found no time for marriage, and not much for government...As his years mounted his mind deteriorated, not into insanity, but into a brooding, melancholy isolation haunted by fear of assassination.” The Story of Civilization: 7, The Age of Reason Begins (New York: MJF Books, 1961), 539.
Emperor adored art to such an extent that in 1585 he released an official decree which stated that painting was no longer merely a craft, but an art of the highest kind, a commendation, it must be said, that he never bestowed upon music.  

Third is the portrayal of Rudolf as a constant pursuer of the magical. This Rudolf opened Prague to the mystics, magicians, alchemists, and cabbalists who were not welcome elsewhere. The desire to be protected by Rudolf’s insatiable appetite for the occult led nearly every major figure in the magical arts to seek refuge in Prague including, among several others, John Dee, Giordano Bruno, Michael Maier, and Oswald Croll. Prague soon became a home of alchemical transmutations, magical conversations with angels and the dead, and miraculous healings. This Rudolf acquired the largest collection of mystical objects in Europe, stored in the famed Wunderkammer, featuring material from all over the continent, Africa, the New World, and the Far East, including a magical unicorn horn and the infamous Codex Gigas, the so-called “Devil’s Bible.”

Historians had often concentrated on one of these three facets when discussing Rudolf, though obvious connections can be drawn among them. Evans attempted, however, to reveal how all three facets originated from the same source: a firm belief in, and desire to recreate, a universal harmony. This yearning inspired Rudolf’s consistent patronage of the arts and sciences, just as it did his support of magicians, alchemists, and sooth-sayers. Moreover it underpinned his diplomatic affairs. At the tail-end of a century that saw violent expressions of religious intolerance at an almost unprecedented level, the universal peace described in the visions of hermetic philosophers may well have been tempting to the Emperor of the Holy Roman Empire.

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The bulk of the present study is centered on the musical activities of the court, and on how those activities influenced and were affected by the unique magical climate of Prague. Before exploring the principal composers and performers, therefore, it is necessary to explore the intellectual environment of the court. To that end, the key hermetic figures and their philosophies are first discussed, beginning with the Emperor himself, then significant mystics, alchemists, and cabbalists. Chapter 2 is an attempt to synthesize the beliefs of these thinkers or, when opinions on particular issues are too varied, to find common ground among them, especially in regards to the role of music in the hermetic vision of the universe.

*Rudolf II*

It is not necessary here to present a thorough biography of Emperor Rudolf II. Indeed, the basic information of his life has already been reviewed for a musicological audience in Comberiati’s *Late Renaissance Music at the Habsburg Court.* But because an investigation of the musical culture at his court revolves so closely around the Emperor’s actions, travels, diplomatic connections, health, and abdication, a brief biography will prove helpful in situating musical activities. Rudolf was born in Vienna on July 18, 1552 as the eldest son of Maximilian II, Holy Roman Emperor, King of Bohemia, Hungary, and Croatia. Rudolf spent the years from 1563 to 1571, from age 11 to 19, in Madrid with his brother Ernst at the court of his maternal uncle Phillip II, the King of Spain. During Rudolf’s time in Spain there were several significant events that would influence his later rule, including the construction of the grand Escorial, the

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9 Comberiati, 1-12.
outbreak of religious revolution in the Netherlands, and the madness and eventual death of his cousin Prince Don Carlos, accused of plotting against Philip II. Scholars have commented at length on the effect Rudolf’s stay in Spain had on him. Some argue that the austere and gloomy Spanish court pushed Rudolf further into his own tendency towards moodiness and melancholy. Furthermore, the militant Catholicism of Philip and the Jesuit leaders was of a much stricter kind than Rudolf had known in Vienna, and Philip made the future Emperor promise “to extirpate all heresy from his lands when he came into them.”

Rudolf’s religious policies during his reign were not quite so simple, however, as will be seen, and perhaps he even bordered on being one of the more ecumenical rulers of his time, though possibly due more to apathy than noble motivations. Other scholars have argued that during Rudolf’s time in Spain, following Philip II, he gained a love of the arts and a thorough humanist education in Latin, mathematics, nature, and religion. Some facets of his Spanish upbringing remained with him during his later rule, since he often spoke Spanish and dressed in a Spanish fashion.

Rudolf, already King of Hungary, was elected King of Bohemia in September, 1575, thanks in large part to efforts made by his father Maximilian towards unification against the Turkish threat. Bohemia had long experienced religious tension, most notably during the Hussite War of the fifteenth century, and by 1575 was home to numerous Catholics, Lutherans, Calvinists, Anabaptists, and Hussites. Rudolf’s grandfather,

11 Crankshaw, 100, quoted in Comberiati, 6.
12 Trevor Roper, 101.
13 Comberiati, 5.
Ferdinand I, had attempted to bolster the number of Catholics by inviting the Jesuits to Bohemia in the middle of the sixteenth century, but their efforts had found little success.\textsuperscript{14} Part of Maximilian’s efforts to have Rudolf elected king, since the throne of Bohemia was an elected post and not purely hereditary, included an oral promise of freedom to practice Protestant religions without interference.\textsuperscript{15} By confirming Rudolf’s election as King of both Bohemia and Hungary, Maximilian all but ensured that his son would inherit the throne of the Holy Roman Empire, but his energies had also guaranteed that Rudolf would govern an empire rife with religious contentions.

Rudolf was elected Holy Roman Emperor in October, 1576 and crowned on the first day of November. He soon decided to move the Imperial Court from Vienna to Prague for personal as well as political reasons. Prague’s mystical heritage, well founded long before Rudolf established it as a haven for magic, likely appealed to the new Emperor.\textsuperscript{16} Furthermore, in the looming Hradschin castle complex stood St. Veit’s Cathedral and the tombs of his grandfather Ferdinand I and father Maximilian II. The significance of their burial places for Rudolf became evident when he later had a white marble mausoleum constructed at the center of the cathedral to house their coffins. Politically, the move to Prague worked to appease the Czechs, who insisted that their king live in Bohemia. The Turkish threat was also drawing nearer to Vienna, at one point reaching only 100 miles from the traditional Habsburg court, so a move to the more easily defensible Prague was a logical choice.

\textsuperscript{14} Evans, 29-34.  
\textsuperscript{15} Comberiati, 9f.  
\textsuperscript{16} For an approachable view of the magical and legendary dimensions of Prague, see Angelo Maria Pipellino, \textit{Magic Prague}, trans. David Newton Marinelli, ed. Michael Heim (Berkeley: University of California Press, 1994).
From 1580 until his death, Rudolf was in Prague more or less permanently, and an official act in 1583 made the castle the imperial seat. For the next thirty years, until his forced abdication, Rudolf essentially isolated himself in Prague, while the empire and the world came to him in the form of diplomats, scholars, artists, and musicians, not to mention plants, animals, and other objects. The Emperor immediately began to assemble a vast collection of mystical and mysterious objects from around the world, housed in his Wunderkammer, which has fascinated scholars and tourists alike for years. Some items are well known, such as the magical unicorn horn (actually the tusk of a Narwhal) and the Codex Gigas, while others, such as a vast collection of musical automata and a nocturnal sundial, are less-known. Prague moreover became the center for many areas of inquiry, such as botany and plant classification, astrology and astronomy, and the elusive search for the philosopher’s stone. Important visitors also came often to Prague for political and diplomatic reasons. One guest of note was Claudio Monteverdi, who arrived in August 1595 and stayed for seven days as part of the musical entourage traveling with Vincenzo Gonzaga, Duke of Mantua and Rudolf’s cousin. The Vincenzo and Rudolf celebrated mass together on several occasions, and Gonzaga likely presented musical scores to Rudolf as a gift, although it is not known if any of Monteverdi’s music was included.

Two important exceptions to Rudolf’s self-imposed isolation were trips to parliaments held in Augsburg in 1582 and Regensburg in 1594. Rudolf’s attendance was

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17 Some of Rudolf’s collection is currently housed in the Schatzkammer, affiliated with the Kunsthistorisches Museum, in Vienna, while more of it is housed in the Castle Museum in Prague.
18 Rudolf II and Prague: The Court and the City contains an exhaustive list of the objects currently housed in Prague from Rudolf’s extensive collection, as well as articles exploring the vast array of artistic, magical, and scientific pursuits that took place in Rudolf’s Prague.
politically necessary, as at each parliament he sought permission to levy taxes in order to raise funds for defense against Turkish attacks on the eastern borders of the empire. Imperial herald Peter Fleischmann recorded the details of each parliament, including what laws were passed and who was in attendance. Comberiati has provided a summary of Fleischmann’s account, so it is not necessary to review all the names, but it is significant to note the musical presence at each parliament. Rudolf was accompanied by thirty-seven chapel singers for the trip to Augsburg, as well as two organists, a tuner, and a court music scribe. Nineteen trumpeters and one drummer also made the trek, who likely performed during outdoor ceremonies and almost certainly for the entrance to and departure from Augsburg. Among the trumpeters was Alessandro Orologio, who would later be known for his instrumental Intradae, as well as for likely assuming the role of chapel master after Philippe de Monte’s death. Fleischmann’s only reference to a specific musical performance is of an unidentified Te Deum with organ accompaniment. Rudolf and his ensemble traveled to Vienna following the parliament in Augsburg, while they waited for an outbreak of the plague in Prague to subside. They remained there until early summer 1583 when they traveled back home.

The musical entourage that accompanied Rudolf to Regensburg in 1594 was larger than the previous assembly, consisting of forty-four singers, and the same two organists, scribe, and tuner. Also present were four “musici” (instrumentalists) and a

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20 Peter Fleischmann, Description des Reichstag zu Augsburg (Augsburg: Michael Manger, 1582), and Kurtze und aigentliche Beschreibung des zu Regensburg in diesem 94. Jahr gesaltenen Reichstag (Regensburg: n.p., 1594); Comberiati, 35-40.

lutenist. Fleischmann moreover mentions that nine of the twelve courts present in Regensburg included musicians in their company. Ten of the twelve courts also brought trumpet corps, which was common at the time as the ensemble was used a means of displaying wealth and power. Fleischmann again mentions the performance of an unnamed *Te Deum*, which possibly featured a combined musical performance, since Walter Pass has shown that the crowning of Maximilian, Rudolf’s father, featured a *Te Deum* performed by mixed imperials choirs and instrumentalists.

Another significant event in Rudolf’s life that certainly had musical accompaniment was his investiture into the Order of the Golden Fleece in 1585. The festivities were held over several days in June, which also saw the induction into the Order of Archduke Charles and Rudolf’s brother Ernst. In the days after the ceremony there were royal tournaments and shooting competitions. Many of the festivities and decorations were designed by court artist Giuseppe Arcimboldo, and at least some music was composed for the occasion by Philippe de Monte. Paul Zehendtner von Zehendtgrub recorded a description of the musical activities, which is edited by Michael Silies in *Die Motteten des Philippe de Monte*. Zehendtner described Monte directing a mass for organ and four-part choir, though Silies doubts if the choir was actually for four parts. He argues that the composition in question was likely a three-part choir performing the motet.

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22 Comberiati, 38f.
“Benedictio et claritas,” which was published in 1585. In any case, the event reveals that, at least early in his reign, Rudolf showed off his famous composer directing a grand collection of musicians.

When Rudolf’s mental health began to deteriorate in the late 1590s, however, many facets of his empire began to fall further into disarray. By 1600 the Emperor was in a state of unpredictability and depression. He withdrew increasingly from public affairs into his private collections, and had the walls of his garden heightened so that no one could see him as he strolled about his assortment of flowers from around the world. He stopped attending almost all religious services because Tycho Brahe, court astronomer and astrologer, had predicted that Rudolf would die at the hands of a monk. He began to remove himself from affairs of state by refusing to meet with his advisors, foreign diplomats, and men of the church. Not surprisingly, rumors ran wild throughout the empire, fueled by those that stood to gain from the Emperor’s apparent descent into madness, making more delicate the historian’s task of determining Rudolf’s actual mental state. Evans provides a summary of how nineteenth and twentieth-century historians have approached the problem of Rudolf’s troubled reign. Some concentrate on contemporary rulers and how they fanned the flames of rumor that spread across Europe for their own benefit. Some argue that, although reclusive, Rudolf never lost his

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27 Comberiati, 61.
28 Evan, 43.
intelligence, compassion, or problem-solving abilities, while others contend that he truly
did go mad by 1600 and that the empire lasted at all is incredible. 

Regardless of differing modern accounts, all of which agree that Rudolf, like
many of the Hapsburg lineage, suffered from a form of melancholy, the Emperor’s rule
soon began to be challenged. In 1606 a group of Archdukes, led by Rudolf’s brother
Matthias, met in Vienna to pledge that they would take the crown. They based their claim
on Rudolf’s seeming lack of interest in matters of state and perhaps his investigations into
the occult, as well as his refusal to attend Christian services. The declaration reads as
follows:

His Majesty has now reached the stage of abandoning God entirely; he will
neither hear nor speak of Him, nor suffer any sign of Him. Not only does he
refuse to attend any sermon, public service, procession or the like, but he hates
and curses all who participate in them, being never more impatient of God and
every good work than on such holy occasions. . . . His majesty is interested only
in wizards, alchymists, kabbalists and the like, sparing no expense to find all
kinds of treasures, learn secrets and use scandalous ways of harming his enemies.
. . . He also has a whole library of magic books. He strives all the time to
eliminate God completely so that he may in future serve a different master. 

A similar description was given by Daniel Eremita, who visited Prague in 1609 as part of
the Tuscan embassy. His outlook is more positive, perhaps because he had little to gain
from Rudolf’s demise, but he still was struck by Rudolf’s reclusiveness and avoidance of
official matters:

The Emperor’s amazing knowledge of all things, ripe judgment, and skill have
made him famous, while his friendliness, steadfastness in religion, and moral
integrity have won him popularity; these were the principles of his outstanding
and remarkable reign which gained the plaudits of the whole world. Rudolf has,
however, ruined everything by taking up the study of art and nature, with such
increasing lack of moderation that he has deserted the affairs of state for

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29 Evans, 44ff.
30 Evans, 84 and 196; Comberiati, 42.
alchemists’ laboratories, painters’ studios, and the workshops of clockmakers. Indeed he has given over his whole palace to such things and is using all his revenues to further them. This has estranged him completely from common humanity: Disturbed in his mind by some ailment of melancholy, he has begun to love solitude and shut himself off in his Palace as if behind the bars of a prison.31

Comberiati has hypothesized on the effects on the musical community brought about by Rudolf’s problematic rule. One probable result was that after the death of Philippe de Monte in 1603 Rudolf never appointed a new chapel master because of a lack of interest, though Alessandro Orologio probably assumed the role unofficially. Orologio, not a composer at the level of de Monte, also did not work as actively to recruit singers and musicians. Moreover, Rudolf’s avoidance of spiritual affairs reduced the importance of the chapel as a whole, and subsequently there were few large events that required numerous musicians.32 While Comberiati’s observations are no doubt correct, and while the prestige of the musical court did steadily decline, Rudolf’s seclusion had another effect on his composers. The unique mystical environment cultivated by Rudolf in Prague, provided fertile ground for musical experimentation employing hermetic philosophies in the first decade of the seventeenth century. Musicians in Prague would certainly have been aware of the scientific and occult undertakings occurring there, as well as the Emperor’s admiration for these endeavors; as I will argue later in this study, some responded with their own hermetic activities, extended to the field of music.

Due to political and military pressures, in 1608 Rudolf ceded rule of Austria, Moravia, and Hungary to Matthias, and assured his succession to Bohemia. After three more years of struggle, Rudolf surrendered the throne to Matthias in 1611, who was

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31 Evans, 44f.
32 Comberiati, 18-24.
crowned King of Bohemia on May 23rd. Rudolf remained Holy Roman Emperor until his
death, but he was kept virtually imprisoned in Hradschin Castle during his last days. He
continued to protest Matthias’s ascension, but died on January 20 of 1612 and was buried
in St. Viet’s cathedral, though not in the mausoleum he had commissioned for his
grandfather and father. Looking for a clean start, Matthias dismissed Rudolf’s entire
court, with the exception of six musicians.\textsuperscript{33} Alessandro Orologio remained in Prague as
assistant chapel master under newly appointed Lambert de Sayve, who assumed the
duties of chapel master under Matthias. Most of Rudolf’s court musicians had to look
elsewhere for work, though some were never able to secure gainful employment. Many
of these were still owed payment from the throne, which was never received.\textsuperscript{34}

\textit{The Hermetic Climate at the Court}

Several studies on the mystics and scientists who called Prague home have been
published, but as the goal of this dissertation is to explore the intellectual exchanges
between the mystical and musical communities, and because many of these names might
be unfamiliar to a musicological reader, it will be useful to highlight the most important
figures of Rudolf’s hermetic circle. In Chapter 5 I shall discuss the scientific community
in Prague, but here I concentrate on those figures who are more easily classified in the
magical and cabbalistic vein, although distinctions between magician and scientist were
much more loosely held in the late sixteenth century. Generally speaking, and for
clarity’s sake, these thinkers can be divided into three broad categories: mystics,

\textsuperscript{33} Albert Smijers, “Die kaiserliche Hofmusik-Kapelle in Wien von 1543-1619,” \textit{Studien zur
Musikwissenschaft} 7 (1920), 110-18.
\textsuperscript{34} Comberiati, 44.
alchemists, and cabbalists. Some of these scholars worked in Prague for extended periods of time, while others were in the city for only a brief while before their travels took them elsewhere, but all of them were a crucial part of the hermetic atmosphere of Rudolf’s court. What role music or broader versions of harmony played in their thinking is considered more thoroughly in the next chapter.

**Mystics**

*Giordano Bruno (1548 – 1600)*

Though he was in Prague for less than a year, the hermetic philosophy that so thoroughly captivated Rudolf and his court may have been epitomized in the works and life of Giordano Bruno. He was one of the most enigmatic figures from his time, and the key moments of his life, including his sparring with the faculty of Oxford, frequent confrontations with the Pope, and his death by burning at the stake for heresy, have made him a favorite of scholars and a legend emulated by practitioners of the esoteric and the occult. His brand of hermeticism appears to have been different from any of his contemporaries, but many elements of his writings were echoed by mystics and alchemists at Rudolf’s court. The basic tenets of Bruno’s philosophy seem to have influenced or reflected diplomatic and political affairs at the court, which included Rudolf’s consistent patronage of the arts as a means to cultivate power, and the desire to find peace through hermetic, mystical balancing.

Filippo Bruno grew up in Italy and entered the Dominican Order in Naples at the age of 17, where he took the name Giordano after his metaphysics tutor, Giordano
Bruno continued his studies in Naples and was ordained into the priesthood in 1572, at the age of 24. During this time he was known primarily for his skill with the art of memory, and on at least one occasion he demonstrated his mnemonic system in Rome for Pope Pius V. His penchant for free thinking and preference for forbidden books soon got him in trouble. After eleven years in the order it was discovered that he possessed a heavily annotated copy of banned writings by Desiderius Erasmus. When Bruno learned that he was soon to be indicted, he left the order and fled Naples.

The next few years saw Bruno travelling through Italy, including a brief stay at the University of Geneva in 1579, but after more trouble caused by his published attack on a professor there, he traveled to France. He earned his doctorate in theology in Toulouse, though he left soon thereafter amidst religious strife in the city, and traveled to Paris where he set up a series of theological lectures. He gained fame once more due to his skills in memory, which some contemporaries attributed to magic, though it was primarily based on a complex system of mnemonics. King Henry III was among those impressed by Bruno’s gift, summoning him to court and then sending him to England to serve as a French ambassador. While in England he became acquainted with the hermeticism of John Dee, though there is no record that the two ever met.


published several works in England and worked for a time as a lecturer at Oxford. He attempted to gain a full position there, but was unable, in part due to his support of the Copernican system that held that the earth revolved around the sun. In 1585 a mob attacked the French embassy in London and Bruno returned briefly to Paris. Once again unable to find a permanent teaching position he traveled to Prague in 1588, where he remained for six months. While in Prague he published *Articuli adversus mathematicos*, dedicated to Rudolf, for which received a payment of 300 taler. Bruno was still unable to secure a teaching position, however, and resumed his travels. After visiting Frankfurt he made his way back to Italy hoping to find employment in Venice or Padua. While in Venice he served as an in-house tutor for Giovanni Mocenigo, but when Bruno announced he was leaving Venice Mocenigo turned him into the Venetian Inquisition on charges of heresy and blasphemy. Bruno was arrested and sent to the Roman Inquisition in 1593, where he was imprisoned for seven years. Following a lengthy trial Bruno was burned at the stake in 1600 in a central Roman square.

Bruno’s life, philosophy, and influence were brought to the attention of modern scholars most prominently in the work of Frances Yates. While there have been some detractors regarding particular elements of Yates’s thesis, for the most part her exposition on the works of Bruno has remained standard. Yates contended that Bruno desired a

return to Egyptianism, a quasi-religion that followed the teaching of Hermes before it was muddled by Christianity and even by the scriptural writings of Moses. Hermes taught how to achieve a world of peace and harmony, in which the microcosm was in tune with the macrocosm, and therefore a sharp contrast to the constant religious feuds of the sixteenth century. The return of such a religion, Bruno believed, would bring peace to the bickering and all too often warring Catholics and Protestants. The hermetic had at his disposal many techniques to strive for this balance, including magic, music, alchemy, and astrology. Magic, Bruno contended, needed to be restored to its pagan roots, and therefore there was no place for the quasi-Christian, feeble magic of Marsilio Ficino. Building upon the work of Heinrich Agrippa, who also attempted to expand the magical possibilities prescribed by Ficino, Bruno sought more power in his magic by flouting the teachings of Christian hermeticism.41

Music appears occasionally in Bruno’s hermeticism as an agent of magical power, though it does not seem to have the same importance as it does in the work of Ficino. In Bruno’s second work, Cantus Circaues (1582), he described briefly the power of “barbarous and arcane songs.” The book was the second published in Paris on Bruno’s magic of memory, and has Circe, the daughter of the Sun, as the heroine. Cantus Circaues contains numerous incantations to the Sun, the Moon, and all the planets, in which their names and associated attributes, metals, and animals are given. Yates claims that Bruno draws primarily from Agrippa for these lengthy incantations.42

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41 Yates, Giordano Bruno, 214.
42 Ibid., 215.
to arcane songs appears in the incantation to the sun and is used to describe the incantations themselves.

Music appears again in Bruno’s mysterious *De gli eroici furori* (1585), which consists of a series of Petrarchan love poems. 43 Bruno explains in the dedication to Philip Sidney, however, that his Petrarchism is not concerned with the love of a women, but to a higher love that is directed towards the divine light present in all things. To use love poetry for mystical or philosophical aims, as Yates explains, was not unusual; Dante and Pico had both done the same, as had the author of he Song of Songs. Yates provides a description and commentary on the poems, and in the nineteenth century an English translation had been published, so it is not necessary to go over the fine details, but for our purposes it is worth discussing the final poem. 44 In it, nine blind men receive sight when a sacred urn is opened by nymphs, and they then proceed to sing as the illuminati nine songs on nine instruments. They perform in the order of the nine spheres, and the last words of each song links to the one following it, just as the last song connects to the beginning, thus creating a circle where the beginning and the end are the same. Their songs are as follows:

*The first sang and played the guitar in this tone*

Oh rocks, Oh trenches, oh thorns, oh twigs, oh stones, oh mountains, oh plains, oh valleys, oh rivers, oh seas, how you reveal yourselves gracious and sweet, for heaven has discovered to us your mercy and your worth! Oh steps spent for good fortune!

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43 Ibid., 275-85.
The second played and sang with his mandolin

Oh steps spent for good fortune, oh goddess Circe, oh glorious afflictions! Oh, how the pains of so many months and years are so many divine graces, if this is our recompense after so much torment and misery!

The third played and sang with his lyre

After so much torment and misery, this is the port prescribed by our tempests, there remains nothing else for us but to thank heaven for having placed before our eyes this veil, through which this light has been finally revealed.

The fourth sang with his viol

Through which this light has been finally revealed, blindness more worthy than any other sight, cares more sweet than any other pleasures; for to the most excellent light you have led us, making less worthy objects useless to the soul.

The fifth one sang with his Spanish timbrel

Making less worthy objects useless to the soul, nourishing a noble thought with hope, was one who spurred us toward that unique path, which showed us the most beautiful creation of God. In this way fate will show itself propitious.

The sixth one sang with his lute

Fate will show itself propitious in this way. For fate does not wish that good follow good, or pain be the presage of pain; but making the wheel turn, it raises, then it hurls down, as in mutability, the day gives itself to night.

The seventh sang with his Spanish harp

As in mutability, the day gives itself to night, when the great cloak of the nocturnal torches obscures the flaming chariot of the sun, so he who governs by eternal decree crushes the great and raises the humble.

The eighth one with bow and viol

He crushes the great and raises the humble, who sustains his infinite schemes, and by a rapid, moderate, or slow rotation he distributes in the immense creation all that is hidden and all that remains seen.
The ninth with a three-stringed viol

Oh, may all that is hidden and all that remains seen not deny, but confirm the incomparable end of our labors, whose witnesses are the fields and mountains, ponds, rivers, seas, rocks, trenches, thorns, twigs, and stones.

After each one in this form and in his turn, had played his instrument and sung his sestet, they danced together in a circle, and, playing in a most sweet accord to the praise of the unique nymph, sang a song which I think I shall remember well enough.

The songs themselves together thematize the passage of time, as well as the circularity of all things. Just as fate will not allow good to follow good, the darkness must follow the light, and the humble must rise against the great. I am unaware of any composer ever setting these words to music, but the symbolism of the circle and the nine voices will be discussed in Chapter 2.

One further musical reference in Bruno’s work deserves mention because it appears in a publication written while he was in Prague and dedicated to Rudolf, Articuli centum et sexaginta adversus huius tempestatis mathematicos atque Philosophos (1588). The work offers a unique treatment of number, symbol, and form, in a manner that shows the influence of Cornelius Agrippa and Ramon Llull. Through a series of 160 articles Bruno offers geometrical definitions, axioms, propositions, and demonstrations. His mathematics is, however, riddled with errors, just as the publication is with typographical mistakes. The main purpose of Articuli was not, apparently, an elegant exposition of geometric proofs and figures, but a critique of contemporary mathematicians and their growing reliance on algebra, versus a recognition of the “vincoli,” or a bond of love that exists between numbers, figures, forms, nature, and the

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46 Saiber, 731.
divine. Bruno, as Saiber points out, thought that the mathematicians of his time were not true “geometras,” but were “fixated on meaningless abstractions and calculations.”47

The work is illustrated with a collection of forty-two ornately decorated diagrams. Some consist of geometrical designs, while others contain drawings of objects or patterns with decorative borders. Bruno likely engraved most of the diagrams for publication himself, as he claims he did with his similar publication, De triplici minimo et mensura (1590), as the printer, Johann Wechel, confirms in the introduction.48 Though it was published two years later, some scholars argue that Bruno worked on De minimo and Articuli at the same time in Prague, which would explain why some of the geometric figures are similar, and in some case exact replicas.49 The first three figures, shown in Figure 1.1, stand for the universal mens, the intellectus, and amor. The third also contains the word ‘Magic’ inscribed in the diagram. Yates argues that these three figures thus represent the hermetic trinity.50 Bruno assigned each figure a symbol, moon for the first, sun for second, and five-pointed star for the third, which appear throughout the book in an apparent cipher. The fourth figure, however, is more mysterious. It contains a lute surrounded by flowery decorations and labeled with the word “Zoemetra.” Bruno’s meaning for this image is unclear, since a description does not appear in the text. I have been able to find no information about what is meant by “Zoemetra,” nor have any

47 Ibid.
48 “[Bruno] having undertaken this volume, and in order to see it to its most precise ends, not only carved the figures with his own hand, but supervised the print’s proofreading. He suddenly had to leave [Frankfurt] just as the last folio was being prepared [for print], and thus could not make final revisions, as he had done on the previous parts of the volume.” Bruno, Opera latine conscripta, ed. Francesco Fiorentino et al. (Stuttgart: Frommann, 1962), 1.3.123f. Quoted and translated in Saiber, 730.
50 Yates, Giordano Bruno, 313ff.
commentators. The image is likely an illusion to the music of the spheres, or perhaps a depiction of how mathematics is brought to life through music.

"Figura Amoris"

"Figura Intellectus."

"Figura Mentis"

"Zoemetra"

Figure 1.1 Giordano Bruno, Articuli centum et sexaginta. . ., Prague, 1588
**John Dee (1527 – 1608/9) and Edward Kelley (1555 – 1597)**

The story of Dee and Kelley in Prague is one of the most mysterious and fascinating chapters of an already enigmatic city.\(^{51}\) They do not often cross paths with music in the historical records, but their activities in Prague certainly had an impact on the hermetic climate of Rudolf’s court. Dee was an occultist, astrologer, mathematician, and magician who worked during much of his life for Queen Elizabeth I. Early in his life he immersed himself in a quest to discover the deep secrets of nature, and turned to the usual mystical tools of such an endeavor: mathematics, hermetic hieroglyphs, cabbala, and astrology. Unsatisfied with the answers he found, he turned to the summoning of angels through the use of a scryer, a type of crystal-ball. In 1582, unable to make the desired connections with angels, he met Kelley, who professed to have the ability to summon angels but was unable to confer with them. The two began working together on their supernatural pursuit, known as “spiritual conferences,” conducted under the guise of intense Christian piety, complete with prayer, fasting, and purifications. They held the belief that their conversations with angels could bring profound good for mankind, though the specifics are difficult to determine.\(^{52}\) As part of their efforts they devised an angelic language, Enochian, that they claimed was given to them by the angels. Kelley claimed that the angels he could see within the scryer tapped out the letters of Enochian

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in a puzzle, with some words backwards, and some forwards, that could only be interpreted through intense study of the numerous tables the two produced.\(^{53}\)

A brief assessment of the philosophical and theological climate in which Dee and Kelley worked reveals that their practices were not highly unorthodox. Historian Deborah E. Harkness argues that in the mid to late sixteenth century that there was a popular belief that the world was nearing an end.\(^{54}\) Splits in the church, religious reformers, new stars appearing in the heavens, and a largely accepted occult culture led many to such thoughts. Popular legends of blood raining from the sky, among other stories, helped to convince people of the nearness of the end. As Harkness writes, “a belief in eschatological signs, for example, fostered a sense that the current human condition was nearing its end and would soon be replaced by the New Jerusalem, where people would live in peaceful harmony with a perfect knowledge of the world and its mysteries.”\(^{55}\) In such a setting, the practice of conversing with angels to gain insight on the world and future seemed natural to some, especially to Rudolf II. It is worth noting that the Catholic Church, which opposed the work of Dee and Kelley, never said that their soothsaying was fraudulent, but rather that the two were conversing with demons rather the angels, and should therefore not be trusted.\(^{56}\)

At some point in the early 1580s, likely around 1583, the two traveled to Prague hoping to gain the patronage of the Wizard King. They held their first “spiritual


\(^{55}\) Ibid., 5.

\(^{56}\) Ibid., 56.
conference” on August 15, 1584, during which they were instructed by the angel Madimi to pen a letter to Rudolf requesting an audience to discuss matters of the highest importance. They received word on August 20 that the Emperor would grant them an audience, which took place on September 2.\(^{57}\) Dee began by explaining how he had spent his life searching for knowledge from books and teachers, but that there was some knowledge that could only be gained divinely. God, he explained, answered his need by sending him angels who speak a secret language, and Kelley to aid in understanding. Dee then offered the message that the angel had given him to deliver to Rudolf:

\[
\text{The Angel of the Lord hath appeared to me, and rebuketh you for your sins. If you will hear me, and believe me, you shall triumph: If you will not hear me, the Lord, the God that made heaven and earth... putteth his foot against your breast, and will throw you headlong down from your seat.}\(^{58}\)
\]

Dee further stressed that if the Emperor repented and abandoned his wickedness that his throne would be the greatest and most powerful of all time, as well as guaranteeing him a victory over the Turks. Rudolf was further assured that if he offered patronage Dee and Kelley, the Emperor would be kept privy to all future communications with angels.

Rudolf did not immediately agree, but did demonstrate that he was curious to learn more about the English soothsayers, sending a councilor, Dr. Curtz, to investigate the claims of Dee and Kelley. That Rudolf did not instantly dismiss the pair for their attempt at pandering their way into a profitable position further demonstrates the mystical inclination of the Emperor and the court itself. On September 15th 1584, Dee met with Curtz for six hours, demonstrating magical equipment and methods, as well as the

\(^{57}\) For a more detailed account of Dee and Kelley’s activities in Prague, see Nicholas Goodrick-Clarke, “The Rosicrucian Prelude: John Dee’s Mission in Central Europe,” in The Rosicrucian Enlightenment Revisited (Hudson: Lindisfarne, 1999), 75-98.

\(^{58}\) Quoted in Goodrick-Clarke, 91.
soothsaying technique. There was subsequently a delay before Curtz presented his findings to the Emperor. Dee wrote to Rudolf after some time had passed to inquire on the verdict; Curtz responded that he thought the angel visitations were too incredible to be real, but that he desired more time to consider. Dee and Kelley traveled to Krakow for part of the fall, returning on December 30th, but the Emperor still would not give them an answer as to whether he would finance their practice.⁵⁹ Fearing they would never gain Rudolf’s support, they spent the winter and spring trying to secure some sort of patronage. The angels did their part, primarily by using their periods of communication to tell Dee and Kelley which ruler might be the most accepting of their visions.⁶⁰ Though Rudolf was especially inclined towards the occult and showed a strong curiosity towards the two soothsayers, he eventually bowed to the pressure from the papal nuncio that the two be expelled.

In May of 1586 the official order was given that the two must leave Rudolf’s court. They soon found their desired patronage in Bohemia, however, under Vilém Rožmberk, burgrave at the imperial court and the most powerful Bohemian noble.⁶¹ Rožmberk was, like Rudolf, renowned as a patron of alchemists, and his castle at Cesky Krumlov was the second largest in Bohemia behind Rudolf’s Hradschin. For the next three years Dee and Kelley served Rožmberk, primarily working in Trebon, before finally leaving the region in 1589. The two then took separate paths and never met again: Dee to Germany (where he met Heinrich Khunrath, whose alchemical philosophy is discussed

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⁵⁹ Goodrick-Clarke, 83-88.
⁶⁰ Harkness, 54.
⁶¹ Vilém Rožmberk was also the dedicatee of a book of madrigals by Camillo Zanotti, which is discussed in Chapter 3.
below), and Kelley back to Prague.\textsuperscript{62} Kelley worked as an alchemist there, convincing Rudolf that he knew the secret to producing gold. When Kelley was unable to perform the transmutation, however, he was imprisoned by Rudolf, who believed not that Kelley had deceived him, but rather that he was simply unwilling to divulge his alchemical secrets. He was eventually released, but then re-imprisoned when again failing to make gold. Legend says that he died from a fall down a tower wall of Hněvín Castle in Most during an escape attempt.\textsuperscript{63}

\textit{Alchemists}

Rudolf’s patronage of the arts and sciences was renowned, as we shall see when examining the artistic, musical, and astronomical cultures fostered at the court, but perhaps more involved than any of his obsessions was his devotion to alchemy. Such fascination was common in the Holy Roman Empire. Historian Vladimír Karpenko has identified that nearly 35\% of alchemical treatises published before 1800 were in German and that employment of alchemists at Holy Roman courts was especially popular between 1560 and 1620.\textsuperscript{64} None, however, surpassed Rudolf and his collection of leading alchemists, including Bavor Rodovský, Martin Ruland the Elder, Heinrich Khunrath, Michael Sendivogius, Oswald Croll, and Michael Maier. It was rumored that the Emperor himself had a laboratory in which he performed alchemical experiments.\textsuperscript{65}

\textsuperscript{63} Michael Wilding, 68-89.
\textsuperscript{65} Evans, 89.
Heinrich Khunrath (c. 1560 – 1605)

Khunrath was a philosopher, physician, and alchemist, and in his writings he taught that man could achieve eternal wisdom through the proper combination of prayer and research. He studied medicine at the Basel Medical School, graduated in 1588, and then traveled through Germany and Bohemia to serve as a physician for various rulers. During his travels he met John Dee in Bremen, who likely became Khunrath's mentor in hermetic philosophy, as the English magician was later praised in many of Khunrath’s writings.66 Khunrath worked in Prague from the late 1580s into the mid-1590s.

Among his several writings on alchemy, *Amphitheatrum sapientiae Aeternae* (1595) was his best-known and has been called “one of the most important books in the whole literature of theosophical alchemy and the occult sciences.”67 The work’s popularity was due in part to a series of engravings by architectural painter Hans Vredeman de Vries that have appeared in numerous later books on alchemy, the occult, and mysticism. The engravings encapsulate the hermetic philosophy of the relationships that exist among various levels of existence (microcosm and macrocosm; terrestrial and celestial; natural and supernatural), which Khunrath sought to bring together through his writings and own practice of alchemy.68 The most well-known is the *Oratory-Laboratory*, shown in Figure 1.2, which depicts an alchemist kneeling in front of his tabernacle, with a Bible open to Psalm 145 reading, “Then they were in great terror for God was with the righteous generation.” On the altar is an alchemical book open to the

image of a pentagram, and to his left rises a cloud of incense symbolizing his prayers to God. On the right side of the engraving is the alchemist’s workshop, supported with two pillars bearing inscriptions reading “reason” and “experience.” On the ceiling hangs a lamp with seven points, representing the seven major operations of alchemy. In the center of the room sits a collection of the alchemist’s tools, including a scale, measuring devices, and perhaps most interestingly for us, four musical instruments. Beneath the instruments is the inscription “Sacred music causes flight from sadness and from the evil spirits, because the spirit of Jehovah sings happily in a heart filled with holy joy.”

Figure 1.2 Hans Vredeman de Vries, in Heinrich Khunrath’s Amphitheatrum sapientiae Aeternae, Hamburg, 1595

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69 More information on this image is available from the Department of Special Collections in the Memorial Library at the University of Wisconsin-Madison, specialcollections.library.wisc.edu/khunrath/index.html, accessed August 2012.
Khunrath is a prime example of an alchemist who was more concerned with the discovery of spiritual and eternal truths than the transmutation of gold. Twentieth-century historian of science John Reed dismissed Khunrath’s work as spiritual rather than material, stating that he exerted “no influence upon the progress of alchemy towards chemistry.”\(^{70}\) Peter Forshaw has recently argued, however, that while not a strictly material alchemist, Khunrath still practiced traditional alchemy, that is the transmuting of metals; not, however, to create gold or the philosopher’s stone for the purpose of wealth or youth, but to provide the stone as evidence of a deep Christian faith and to prove the existence of supernatural and divine phenomena, especially the possibility of miracles.\(^{71}\) Khunrath was not opposed to the transmutation of metals into gold, as he later wrote that it was acceptable as long as the resulting profit was used to benefit the poor, but it was never a central aim of his alchemy.\(^{72}\) The *Amphitheatrum sapientiae Aeternae* itself is primarily a theosophical commentary on selected verses from the Solomonic texts of the Bible. Arthur Edward Waite considered Khunrath, along with Jakob Böhme and Robert Fludd, to be among the first to emphasize a spiritual element of alchemy.\(^{73}\) While this view and definition have been challenged in the nearly one hundred years since Waite’s study, and although the practice of alchemy has nearly always included some sort of


\(^{73}\) “When Khunrath and Böhme and Fludd rose up to witness to another and higher Alchemy they did not pretend that it had been practices by the old alchemists as such.” Arthur Edward Waite, *Secret Tradition in Alchemy: Its Development and Records* (London: Kegan Paul, Trench, Trubner, 1926), 352.
mystical or spiritual component, Khunrath can still be counted among those who were practitioners of “supernatural alchemy.”

It was common belief that in order to discover the philosopher’s stone, an alchemist must be blessed by divine intervention, leading to an esoteric, devotional brand of alchemy of which Khunrath was among the most ardent practitioners. His work is replete with examples of correspondence between the mundane and the divine, and in the *Oratory-Laboratory* there are multiple depictions of methods to connect one to higher powers; incense, prayer, and musical instruments. Determining Khunrath’s precise brand of alchemy is better left to historians of magic and science, but for our purposes it is important to note his unified hermetic vision of the world, in which musical instruments were depicted to played a fundamental role.

**Oswald Croll [Crollius] (c. 1563 – 1609)**

Oswald Croll studied medicine in Heidelberg, Strasbourg, and Genevea, and eventually received a doctorate in medicine at the University of Marburg in Hesse in 1582. He then lived as a travelling Paracelsian medical nomad working for wealthy nobility, including a roughly two-year stay in Prague in 1597 under Rudolf II. In 1602 he returned to Prague, where he worked until his death in 1609. He was a strong proponent of Paracelsian medicine, a medical philosophy which called for the use of chemicals and minerals, as well as a hermetic balancing of the humors and minerals in the human body.

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Croll is perhaps best known for encouraging medical thinkers and practitioners to view alchemy and chemistry as two separate fields.\textsuperscript{76}

Croll’s major work, \textit{Basilica chymica}, was published in 1608, while he was in Prague, and contains three major sections: a lengthy preface on the Paracelsian understanding of medicine and its relation to harmony and nature, a practical guide of chemical medicines and proper methods of preparation, and a treatise on signatures, an alchemical theory that the form or function of a natural object provides clues as to how it may be applied in medical healing. The frontispiece, shown in Figure 1.3, reveals that the inclusion of musical imagery in alchemical laboratories, as seen in Khunrath’s \textit{Oratory-Laboratory}, was not unique. It depicts several prominent figures of alchemical and hermetic thought, including Paracelsus, Ramon Llull, Roger Bacon, and Hermes Trismegistus, who holds a placard of the famous saying attributed to him, “Quod est superius, est sicut id quod est inferius,” commonly shortened in English to, “As above, so below.” The upper circle depicts the “light of grace,” while the lower pictures the “light of nature.” Behind the lower circle are scenes from an alchemist’s laboratory. In the upper left the alchemist kneels and prays towards the sun, while below him a fire burns in an alembic, where a liquid is brought to a boil, and the vapors recaptured, cooled, and condensed. The bottom right contains an assortment of tools used for alchemy, including jars and a bellow. The upper right depicts the philosophical side of alchemy, with books, medicines, and, once again alongside traditional tools of alchemy, a lute.

Croll’s alchemical philosophy as espoused in *Basilica Chymica* is similar to Khunrath’s, in that his was not a quest for wealth or youth; but in the place of religious
fanaticism and miracles Croll sought to follow Paracelsus and practice medicine by utilizing the correspondences between the macrocosm and the microcosm to bring balance to the body and spirit. Elizabeth Jane Weston, Neo-Latin poet and step-daughter of spirit-medium Edward Kelley, wrote a dedicatory poem to Croll that appeared in the title page of his Basilica Chymica, in which the alchemist is compared to Apollo, the god of medicine and divine song. It reads as follows:

On the Medical Works of the most famous
And excellent gentleman, Master Oswald Croll,
Highly praised Doctor of Physic and Medicine.

Since Croll exposes himself so boldly to envy
In publishing works praised by learned physicians;
He has as much perfected his monuments to perennial virtue
As he has provided a work of sincere piety.
But since he puts forth works pleasing to God and healthful to ailing limbs, for me he will always be Phoebus Apollo.

Croll is described primarily as a practitioner of medicine, though his medical work was certainly based on alchemy, which was typical among Rudolf’s alchemists as seen regarding Khunrath, who cared more for striking a balance in the human body and between the microcosm and macrocosm than the pursuit of gold.

It is worth mentioning here another image that depicts alchemists with musical instruments. John Daniel Mylius’s Opus medico-chymicum, published in 1618 in Frankfurt, provides portraits of nearly one hundred alchemists and natural philosophers. The last two portraits, Oswald Croll and Mylius himself, Figure 1.4, both depict lutes resting in their workspace alongside more traditional alchemical tools. The portraits are accompanied by inscriptions: for Croll, named “Disciple of the Philosophers,” “This

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knowledge is nothing but the secrets of the wise teachers and philosophers.” For John, named “Disciple of the Philosophic Wisdom,” “That is, To walk in the Divine ways and in the Magistry, with Our Lord Jesus Christ for a companion.”

Figure 1.4 John Daniel Mylius, Opus medico-chymicum, Frankfurt, 1618

From these images arises a simple question: did music factor into the Renaissance practice of alchemy? If we are to believe these illustrations of laboratories, of which the above examples are but a small sample showing musical instruments alongside the traditional tools of alchemy, there appears to have been a familiarity with music theory and practice among alchemists.\(^7\)\(^8\) In the depictions, however, the alchemists are never shown playing the instruments, suggesting that the instruments are included as a symbol of philosophical or artistic knowledge.

Alchemical treatises provide few clues on how music was used, although they were intentionally ambiguous, secretive, and often nearly impossible to decode, given that authors wished to protect their craft from charlatans for both idealistic and financial reasons. Nevertheless, mentions of music beyond vague descriptions of the value of harmony are rare considering how often musical imagery appears in alchemical engravings. English alchemist Thomas Norton’s *Ordinall of Alchemy* from 1477 provides a typical discussion of music in this context. Norton’s work was well-known in Rudolf’s Prague, especially by the Emperor’s personal physician and alchemist Michael Maier, who translated the *Ordinall of Alchemy* into Latin in 1618. Norton’s discussion of music is as follows:79

Ioyne [combine] your elementis Musicallye,
For ij [two] causis: one is for melodye
Whiche theire accordis wil make to your mynde
The trewe effecte when pat ye shll fynde;
And al-so for like as Dyapason,
With diapente & with diatesseron,
With ypate ypaton [hypate hypaton, a pitch in the Greek musical scale] & lekano Muse[d],
With accordis which in musike be [used],
With theire proporticons cawsen Armonye,
Mooch like proporticons be in Alchymye,
As for the grete nombres actualle;
But for the secrete nombres intellectuall,
Ye most seche them, as I seid bef ore,
Owte of Raymonde & owt of Bacons lore.

Norton asserts the value of music in alchemy, while avoiding specific applications. An examination of treatises from Rudolf’s court, including Khunrath’s *Amphitheatrum sapientiae Aeternae*, Croll’s *Basilica Chymica*, Ruland’s *Lexicon of Alchemy*, and Sendivogius’s *Novum Lumen Chymicum*, reveals almost no mention of music in relation

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to alchemy, though the last author does promise a forthcoming treatise on the nature of harmony that was either lost or never written. There are a few notable exceptions that employ music, such as Michael Maier’s collection of engravings, poems and musical fugues *Atalanta Fugiens*, discussed below, but in general there is little mention of music in any traditional sense in the context of alchemy.

It should be remembered, however, that during the Renaissance there were two closely intertwined types of alchemy. The first practitioner was he that was attracted to alchemy’s purported abilities to improve the here and now. He sought to turn base metals into gold, and old flesh into young. Most often this type of alchemist lost the two things he worked so ardently to find, his money and his time. The second type sought deeper meanings through alchemical work, attempting to understand the unity that exists among all things. His was a quest for spiritual riches, to know the correspondences between earth and heaven. It is in the second camp that Croll, Khunrath, and the majority of Rudolf’s alchemists belonged. It is also with this group that we find more evidence for music as playing a significant role.

The distinctions between the two types of alchemists can be seen in the numerous debates over who represented the true practitioners of the craft. For reasons of pride and financial security, alchemists were eager to make it known that their abilities were real while others claiming to be alchemists were impostors. Maier went as far as publishing a treatise in 1617, *Examen Fucorum Pseudo-Chymicorum*, in which he revealed the methods of fraudulent alchemists so that the true masters could be identified. ⁸⁰ He

provided four signs to identify fake alchemists: first, an absence of a ‘real’ knowledge of the philosophy behind the alchemical process, second, promising too much gold for too low a price, third, living in too opulent wealth, and fourth, directing all activities at deception.

It is in relation to Maier’s first point, that an alchemist must understand the philosophy surrounding his craft to be a true practitioner, that it seems music played its most significant role in alchemy. In early modern epistemology, following in part a tradition dating to the ancient Greeks, the conception of music was far broader than today’s, encompassing elements of mathematics, celestial movements, and human physiology. There were believed to be four closely connected types of music: the divine music of the angels, the music made by the planets moving in the heavens, the music of the human body as produced by the natural rhythms of life, and audible music performed by instruments or singing. By producing instrumental music with the proper ratios, one could regulate the processes in the body, imitate the movement of the planets, and emulate the songs of the angels. Music subsequently had an integral role in the educational system as part of the quadrivium; for one to study arithmetic, astronomy, or geometry, one must also master the basics of music. Indeed, the knowledgeable alchemist would have striven to understand all subjects, as Ficino wrote in his translation of the *Corpus Hermeticum*:

*Unless you make yourself equal to God, you cannot understand God: for the like is not intelligible save to the like. Make yourself grow to a greatness beyond measure. . . Believe that nothing is impossible for you, think yourself immortal and capable of understanding all, all arts, all sciences, the nature of every living*
being...If you embrace in your thought all things at once, times, places, substances, qualities, quantities, you may understand God.\textsuperscript{81}

By demonstrating a knowledge of music and the arts, an alchemist could present himself as knowledgeable of the universal relationships necessary to his craft.

In the late sixteenth century, in addition to the mythical power of music described in the Bible such as David using his harp to relive Saul of his madness, there were many legends of music being used for mystical or magical aims by significant hermetic figures. According to early Christian writer Clement of Alexandria, Hermes Trismegistus wrote books of music and hymns, including one that had the ability to regenerate the earth.\textsuperscript{82} Ficino reportedly revived the songs of Orpheus, using them to heal sick patients.\textsuperscript{83} He also devised a system of interrelations between musical intervals and the signs of the zodiac, allowing for a musical recreation of the planetary powers because, as he wrote,

\begin{quote}
Harmony through its numbers and proportions has a wonderful power to calm, move, and affect our spirit, soul, and body. . . .Similarly, celestial figures activate themselves by their own motion; for by their own harmonious rays and motions penetrating everything they daily effect our spirit secretly just as very powerful music is wont to do openly.\textsuperscript{84}
\end{quote}

Italian philosopher Giovanni Pico della Mirandola echoed Ficino’s words, writing “in natural magic nothing is more efficacious than the Hymns of Orpheus, if there be applied to them a suitable music, and disposition of soul, and the other circumstances known to the wise.”\textsuperscript{85}

\textsuperscript{81} Quoted in Francis Yates, \textit{Giordano Bruno}, 32.
\textsuperscript{82} Yates, 12.
\textsuperscript{84} Ibid., 131.
It was largely after these thinkers that Rudolf’s alchemists modeled themselves. When they did apply their knowledge it was more often done for medical research, religious devotion, or the pursuit of knowledge. Art historian Sally Metzler has argued that Rudolf’s consistent support of alchemists was part of his efforts to achieve harmony and equilibrium in a highly turbulent world, which was believed to be possible through alchemic-hermetic investigations of nature.\textsuperscript{86} Musical imagery in alchemical depictions, therefore, was likely intended to indicate a philosophical knowledge of microcosmic/macrocosmic correlations, which will be discussed throughout this dissertation, rather than an ability to play the pictured instruments. But music almost certainly factored heavily into the alchemical conception of the natural world. In a hermetic system in which the material and spiritual where linked just as the earthly and heavenly, music was a common language used to represent those correspondences. Any alchemist seeking to prove his philosophical prowess would therefore display his musical knowledge. Certainly an alchemist trained in medicine or philosophy, as all of Rudolf’s alchemists were, learned the basics of music theory at some point in his training, but it cannot be determined from the treatises whether music played a role in alchemy, with one crucial exception which will now be discussed.

\textit{Michael Maier (1569-1622)}

Music did find its way into the medical alchemy of Rudolf’s perhaps most enigmatic alchemist, Michael Maier, who is probably the best known alchemist from

Rudolf’s court, due in part to studies by Joscelyn Godwin of Maier’s *Atalanta Fugiens* (1617). Maier studied philosophy and medicine at Rostock, Frankfurt (Oder), and Padua, and in 1596 earned a doctorate in medicine at Basel. He then returned to Rostock to practice medicine and later worked briefly in Königsberg and Danzig. Similar to Khunrath and Croll, Maier believed that alchemy should not have the goal of goldmaking, but rather the preparation of the God-given Universal medicine. In the late 1590s he witnessed a miraculous cure through the medical application of alchemy, which gave a new direction to his life.\(^{87}\) He began compiling glossaries of alchemical methods, terms, and ingredients, then performed theological studies of the nature of alchemy, and finally began work in his own laboratory in Kiel in 1602. By either 1607 or 1608 he claimed to have discovered “by God’s grace, the Universal Medicine, of a bright lemon color.”\(^{88}\)

It was not until 1608 that he traveled to Prague, making him the last arrival of the Emperor’s circle of alchemists. He likely gained the attention of Rudolf with his first alchemical publication, *De Medicia regia et vere heroica, Coelidonia* (Prague, 1609). He entered Rudolf’s service in September of 1609, and ten days later was raised to the nobility. The other honors bestowed upon Maier were many, including the titles Personal Physician, Count Palatine, and Knight Exemptus. His time in Prague was brief as Maier had to search for another patron when Rudolf was deposed in 1611. Maier traveled through Germany and England between 1611 and 1616. In 1620 he moved to Magdeburg

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\(^{87}\) Godwin, 103.

to practice medicine, where he died in 1622. His works published after leaving Prague maintained his position that the purpose of alchemy was to find divine medicines. This is stated most clearly in his first major work, *Arcana arcanissima*, from 1614, likely written while he was in Prague.\(^8^9\)

Maier went on to publish several important alchemical treatises as well as to play a significant and mysterious role, in the founding of the Rosicrucian brotherhood. His activities in this regard are beyond the scope of this dissertation, as they occurred well after his time in Prague, but it is worth mentioning briefly his most celebrated work, *Atalanta Fugiens*, a hermetic combination of art, poetry, and music meant to create the perfect atmosphere for successful alchemical experiments. Maier’s high regard for music is shown in his preface, as revealed in the following excerpt which outlines the four types of music discussed earlier:\(^9^0\)

> The very angels are singing, as the Holy Scriptures declare; the heavens are singing, as Pythagoras confirmed; and they proclaim the glory of God, as the Psalmist reports; the Muses and Apollo are singing, so say the poets; the people and also the children are singing; the birds, the sheep and the geese are singing on their musical instruments; thus we, too sing and play music, and we do it not without reason.

And sing Maier does. In addition to fifty emblems and epigrams, he provided fifty musical canons, which were just as necessary to the work’s goal as the well-known images that have since been reproduced numerous times. The work has been discussed at length by Joscelyn Godwin, but a brief survey will prove helpful. The canons themselves were all based on a cantus firmus, which was borrowed from the 11th century chant

\(^8^9\) Hereward Tilton, *The Quest for the Phoenix: Spiritual Alchemy and Rosicrucianism in the Work of Count Michael Maier (1569-1622)* (Berlin: de Gruyter, 2003), 80-86.

“Cunctipotens genitor Deus.”91 While these canons contain several errors in counterpoint that were almost certainly mistakes rather than artistic expression, Maier’s effort is impressive and reveals an intimate knowledge of contemporary compositional practices.

Maier’s work was based on the Greek myth of the fleet-footed huntress Atalanta, who could run faster than the wind. She was only willing to marry a man who could beat her in a race, and she killed those who failed trying. She was eventually bested by Hippomenes who was able to defeat her with the aid of three golden apples given to him by the Goddess Venus, which he threw in front of Atalanta to slacken her pace as she slowed to gaze at them. Each canon contains three voices representing Atalanta, Hippomenes, and the apple itself. Musically the canon works well to represent a chase, as the notes for Hippomenes consistently follow those for Atalanta, until near the end of the collection, when the two sound identical rhythms, symbolizing their union. The final ten compositions break from the traditional canon and become intertwined, symbolizing a successful alchemical procedure. Maier experimented with musical techniques including inversion and retrograde motion. To highlight the alchemical intermingling of the three voices, which could symbolize the three raw materials, mercury, sulfur, and salt, the last three fugues included voices printed upside down, as shown in Figure 1.5. Here the voice of the golden apple maintains the same melody, but each word is upside down and sung backwards. This peculiar arrangement raises the question of whether these canons were ever meant to be performed, which cannot be definitively answered. Maier did indicate, however, that an alchemist should perform these songs prior to experimentation.

91 Ibid., 42.
Cabbalists

The third stream of the occult that ran freely in Rudolf’s Prague was cabbala, loosely defined as a mystical religious sect of Judaism. It was based on several visionary writings, the most famous of which was the thirteenth-century Spanish Zohar. The Zohar is primarily a commentary on the Torah that claims to be an introduction to the mysteries
of the Bible, invisible to the untrained eye. The trained eye was able to detect different meanings of the text through a practice known as gematria, which was a system of assigning numerical values to words or phrases based on the letters, and then comparing different words to discover a hidden meaning. In Hebrew, letters are used for numerical values as well as spelling, providing an inherent link between numbers and words. Two words that had the same numerical value were thought to have some sort of a connection.

There were several methods of adding the numbers, but the most common method involved adding the traditional values of letters to find a cumulative number for a word or phrase. A simple example is derived from adding the value for the word Yahweh, and connecting it to divine qualities. Yahweh (YHVH) totals 26, as does “Great” or “Glorify” (Kavod), “Word” (Davar), “Holy Ground” (gay hagia), and “It shall come to pass” (V’Hayah). Christian Cabbalists used a similar method to determine the number of the beast, 666, from the name of first century Roman emperor Nero Caesar, and the number of Jesus, 888. Early practitioners of gematria passed down their interpretations from the Torah through oral tradition, which interwove with Jewish writings and culture and became a part of accepted wisdom. Tradition held that the oral teachings dated back to at least 1000 BC, and were not written down until the thirteenth century in the Zohar, which was printed for the first time between 1558 and 1560.

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In Rudolf’s Prague there existed three branches of cabbalistic philosophy that had influence on thinkers and artists in the city: the cabbala as practiced by the Jews themselves, the so-called Christian cabbala, and a generalized belief in the mystical power of letters and numbers.\textsuperscript{95} The first branch was widely accepted, and in this sense John Dee, Heinrich Khunrath, Giordano Bruno, and many other occult figures were practitioners of cabbala, though their devotion to numbers also stemmed from Pythagoreanism. It is the latter two groups that deserve more attention in terms of Prague’s occult climate.

During the second half of the sixteenth century there was an increasing interest in Jewish thinking across the continent, especially in Central Europe, which was caused by several factors. The expulsion of the Sephardic Jewry after 1492 ordered by Ferdinand and Isabella, led to a shift in the Jewish population, as well as considerations caused by a fresh diaspora and their resulting concerns about the imminence of apocalyptic judgment. Under these circumstances the Lurianic cabbala of Isaac Luria and Moses Cordovera, which began in Palestine, spread to Europe in the second half of the sixteenth century.\textsuperscript{96} Many of the primary tenets of Lurianic cabbala were similar to those of contemporary Christianity, including a belief in a forthcoming reform to moral and spiritual harmony and a conception of prayer as an agent of creative power, similar to Hermetic teachings of the powers of words. Continued persecution in Western Europe drove many Jews to cities in Central Europe, Prague being one of the most populated and culturally significant. Prague housed a ghetto in the center of the city, and saw its first Hebrew book printed in

\textsuperscript{95} Evans, 236.
Occasional threats of banishment were made by the Habsburgs, but for the most part the empire was accommodating towards Jews, some of whom sustained significant financial roles across Europe. Jewish investor Mordechai Meizl, for example, was the wealthiest man in Prague around 1600, and he maintained close contact with Rudolf, who granted him special trading rights in 1592. Centered primarily in Prague and Krakow, Central European Jewish intellectual life flourished based on a renewed study of the cabbala. The works of Cordovera were published in Krakow in 1591 and spread quickly, and further commentaries on Lurianic cabbala were published in Prague in 1612.

Judah Loew ben Bezalel (c. 1520 – 1609)

The most significant figure in the expansion of the Jewish Cabbala in Prague was Judah Loew ben Bezalel. Rabbi Loew served for much of his life as the leading rabbi in Prague and was known as the “Maharal of Prague.” Tradition said that the Maharals descended from the Babylonian Exilarchs, and therefore also from the Davidic dynasty, though there is no evidence to support this claim; regardless, the moniker demonstrates the high regard in which he was held. He traveled frequently during Rudolf’s reign, though he was in Prague between 1573 and 1592, and then again from 1597 until his death. Loew was a prolific author and most of his works were concerned with validating the supernatural and supranatural in Jewish teaching. He was characteristically hermetic.

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98 Evans, 239-41.
and cabalistic, as he strove consistently for harmony in the mystical sense, and recognized a cosmological system in which the divine has power over the micro- and macrocosms. He was also adept at reading numbers and letters in the manner of cabbala, though his works do not provide specific directions on how to do so. He also believed in the imminent end of the world, and a perfection of mankind brought about through education and the recovery of harmony.  

It is also worth considering the legends that surround Rabbi Loew. Though his worldview aligned closely with that of the Emperor, there is only one recorded instance of a meeting between the two, which likely involved a discussion of the cabbala.  

Loew is also the subject of the various legends of the golem, a creature made out of mud from the banks of the Vltava river using cabbalistic magic. According to the legends, Loew created this creature to defend the Jewish Ghetto of Prague from anti-Semitic attacks. In some versions the golem of Prague becomes more and more violent, attacking the Jews themselves and even Rabbi Loew. Other legends describe the golem falling in love and only becoming violent when rejected. The golem has been the subject of many works of fiction since the Renaissance, including, among many others, 19th-century germanic fiction, modern science fiction such as The X-Files television show, and the novel by Frances Sherwood that introduced this chapter. Such stories, even as fiction, perhaps do more to shape our view of Renaissance Prague than the many historical accounts.

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100 Sherwin, 87.
101 See Evans, 240f.
Christian Cabalists

Although no figure stands out among the Christian cabalists as does Rabbi Loew among the Jews, it is worth observing that cabbala was popular among some Christian philosophers and clergymen in Prague. Rudolf’s personal confessor, Johann Pistorius, for example, published a compendium of cabbalistic texts in Basle in 1587, before he began to work for Rudolf, that contained works by Paul Ricci, a well-known Christian cabalist, various writings by converted Jews, and the mystical Sepher Iezira, or the Book of Creation. Pistorius planned this volume to be the first of many such works that were to gather in one volume the most important writings of Christian cabbalism. No other volume was ever printed, though Evans argues that Pistorius maintained his belief in Christian cabbalism.

Protestants were on the whole more hostile theologically towards cabbala, but there were a few notable exceptions. Johann Habermann of Eger (also known as Johann Avenarius), for example, was a well-known Lutheran theologian in neighboring Saxony. His publications included a number of sermons, a description of the life of Christ, and a prayer book, Christliche Gebett für allerley Not und Stende der gantzen Christenheit (Wittenberg, 1567). These works were primarily written in a plain vernacular language, with few ornaments. They traveled widely in Protestant circles and were later translated into Latin, English, and French. His last work, however, is far more mysterious. The Biblia Arcano-Magica Mosaica survives in print in Prague, and claims to contain the

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105 Evans, 237.
hidden divine revelations of Moses, that had until then been kept secret. Habermann wrote that the secret message of Moses passed to Solomon, then Alexander the Great, then to Greece, then Venice, and finally to his publication in 1591.\(^{106}\) The text is replete with crudely drawn Hebrew characters, and demonstrates that the reach of cabala extended even to Protestant theologians.

Evans identifies other manuscripts in Prague of cabbalistic texts, likely compiled by Christian authors, such as a Czech-translated *Sepher Raziel*. This “book of power and mystery” claims to contain the wisdom of Solomon and describes the power of numerology, astrological influences, and the manipulation of numbers and letters.\(^{107}\) Henry Julius, Duke of Brunswick, who had frequent encounters with Rudolf and shared his love of cabbala and alchemy, and possessed a copy of Pico’s *Cabalistarum Dogmata* as well as the mystical *Sepher Iezira*, which he wrote out for himself. Rudolf maintained his own search for cabbalistic texts, and was often given obscure magical books by visiting diplomats and merchants. Some of these texts, such as a mysterious cipher attributed to Roger Bacon with no authority, contain highly complex coding and have yet to be deciphered by modern scholars.\(^{108}\)

\(^{106}\) Ibid.
\(^{107}\) Ibid., 238.
Conclusion

Under the rule and patronage of Rudolf II, Prague was home to many mystical thinkers in the late sixteenth and early seventeenth centuries. These philosophers, magicians, alchemists, and spiritual leaders worked directly alongside the many musicians and composers who also lived in Prague. They fostered a view of the universe in which all elements of existence were intimately connected: men could speak with the dead and angels using a bizarre language, God left secret messages in the scriptures available only to those with a trained eye, and a skilled alchemist could produce a divine medicine that could cure all diseases. Although we barely encountered music in this chapter, it will hopefully become clear that music served as a vital tool in hermetic understandings of the interconnections between the macrocosm and the microcosm. It is my contention that these philosophies were slowly integrated into the compositional style of Rudolf’s composers.
Chapter 2

The Language of Musical Esotericism in Rudolf’s Prague

Fifteenth-century musical humanist Marsilio Ficino advised composers that using the proper musical pitches, chosen by the “rule of the stars,” and combined “according to the congruity of these stars,” would result in the harnessing of celestial power.¹ Early sixteenth-century mystic Heinrich Agrippa made similar claims that no song or sound is as magically powerful as those that are “composed of numbers, measures, and proportions after the example of the Heavens.”² Johannes Kepler, astronomer and astrologer working in Prague around the turn of the seventeenth century, wrote that God either constructed the laws of astrology after the harmonies of music, or ordained music to mimic the planetary motions.³ These three thinkers flanking the sixteenth century, a Catholic, an occultist, and a Lutheran, all held that music was not only constructed according to the same rules as those that governed the heavens, but that music properly composed could harness celestial power to affect people and events on earth. Recent

studies on music’s relationship with occult and hermetic philosophy in the sixteenth century have begun to reveal that composers heeded this advice more than has been formerly recognized in musicological literature.\textsuperscript{4} The influence of hermetic thinking on the music of Orlando di Lasso and John Dowland, for example, has recently been highlighted, but beyond these sample case studies, no codified system of or approach to musical mysticism has yet been offered.\textsuperscript{5}

The present chapter addresses this lacuna by providing a survey of approaches to mysticism in Renaissance music as it would have been received in Rudolf’s Prague. Determining if a composer might have incorporated magical or hermetic philosophy into their music can be a daunting task for the modern researcher, and any conclusions are bound to be contentious. Renaissance mystics thoroughly encoded their work to protect their secrets from the uninitiated; or, the skeptic might offer, to deceive others into believing they held a power that in fact they did not. Mystical treatises are consequently often difficult to decipher and esoteric imagery is often filled with obscure references and symbols. Specific directives regarding music, however, are often more clearly defined, allowing us to roughly outline what theories and methods could have been known to composers, making the task of identifying music influenced by mysticism possible.

Composers in the late Renaissance often sought to make use of unseen connections between different levels of reality through a complex system of equivalences

\textsuperscript{4} See the several articles on the topic in the recent study \textit{Music and Esotericism}, ed. Laurence Wuidar (Leiden: Brill, 2010).

\textsuperscript{5} See Marjorie A. Roth, “Prophecy, Harmony, and the Alchemical Transformation of the Soul: The Key to Lasso’s Chromatic Sibyls,” 45-76; and Anthony Rooley, “Dwelling in Darkness: Dowland’s Dark Songs as Hermetic Pessimist Gnosis, and Could this be ‘Evidence’ of the Esoteric ‘School of Night’?,” 77-94, both in \textit{Music and Esotericism}.

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linking the mundane to the divine. The famous engraving of the “Great Chain of Being” from Robert Flood’s *Utrisque Cosmi majoris* . . . (1617-1621), Figure 2.1, depicts just such a system. The ordered universe is divided into distinct, but interrelated sections. The planetary spheres are related to specific elements; the zodiac signs to vegetables, minerals, and animals; and the super-ceilstial plane to the celestial.
The value of a piece of music could be judged by how well it utilized these correspondences and accomplished the goal of linking the divine to the mundane. As Gary Tomlinson described, “the driving force behind song repertories of this period is most often the attempt to strike up systems of correspondence among different levels of sonic and verbal significance. In this these repertories construct a musical voice that seeks its efficacy in the tonal mimesis of other, nontonal and nonverbal formal patterns.”6

There were, I contend, two ways that this model of understanding manifested itself in the work of the late Renaissance composer. The first was to represent and reflect the chain of continuity between all things, earthly and heavenly, in a manner that would likely be termed symbolism in modern society, but which often meant much more in the late sixteenth century. A seven-voice Magnificat, for example, replete with Christian symbolic meaning, was not meant merely to make the listener reflect on the Virgin Mary and Her sacrifice, but rather to provide a direct connection to the ethereal and, arguably, Mary herself. If all things exist in a continuous line then there must be some way to move between the different realms, and music often served as that medium, existing in the same sphere as the soul and the Ficinian spiritus.7

A second manifestation of hermetic philosophy in music was an active attempt to use this continuous chain of existence as a way to influence and change the realm in which physical humans exist. As all dimensions were connected (physical - spiritual, terrestrial - celestial), all activities in the macrocosm affected events in the microcosm.

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Across Europe, royal courts employed private astrologers to foresee what these influences might be: a particular arrangement of the planets foretold when optimally to plant crops, or what would be the future disposition of a new-born, or an optimal time for diplomacy because of a resulting peace or serenity. Occult and hermetic philosophers argued that, since heavenly movements were ordained by God to precisely follow the patterns of music, or vice versa, music could be used to mimic the planets and cause the same effects. If a particular planetary arrangement caused peaceful or war-like feelings, then music constructed of the same ratios would have the same effect. Hence we find contemporaires claiming Orpheus was reborn in Ficino, or Agrippa urging composers to create a more powerful music.

Here a simple question, requiring a complex answer, is raised: did composers in fact write music meant to have a supernatural effect, through either magic, incantation, or drawing on divine or celestial influence? Tomlinson has identified the important role music played in the work of Renaissance magicians, but it is more difficult to find examples in which composers were influenced by magicians. There are several well-known instances of symbolism, but nowhere that I am aware of did a composer in the sixteenth century, for example, write that his music was composed specifically to draw on the power of Mars to gain favor for his patron in an upcoming battle. While documented cases are difficult to find, however, there is no reason to believe that

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composers never attempted to write music with magical power. They inhabited a world in which it was a common belief that music was inherently linked with the movement of the planets and the songs of angels. They knew the stories of David curing Saul’s madness with his lyre, and the ancient Greeks rousing their troops and granting them divine power in battle through music. Their sixteenth-century contemporaries claimed that if music properly matched the movement of the planets, then it would possess the same power as the planets themselves. The question above, then, leads to further questions. On one hand, why would not some composers have attempted to wield this power? Is it not more of a stretch to think that no composer ever took a mystical author seriously than to believe that no composer ever attempted to gain mystical power through music? On the other hand, esotericism, by its very nature, was often a secretive practice, as the tools of the trade were protected by a select group of practitioners. Why would composers treat their craft any differently? As we saw in the previous chapter, the few magicians who did make great claims about their power often ended up imprisoned or killed, so if a composer held the keys, or at least thought he did, to mystical power, would he not have been wise to keep those secrets to himself?

Later in this dissertation I identify several examples that I believe show that just this practice occurred in Rudolf’s Prague. I do not claim, however, that it was a common occurrence. To identify the outliers that are suggestive of a music of power, the compositional styles used for such music must first be identified; but most of the pieces discussed in the following chapters correspond to existing compositional techniques,

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See the excerpts of writings by Agrippa and Robert Fludd in Godwin, *Music, Mysticism, and Magic*, 131f, 143-47.
allowing their mystical associations to remain obscure. Prior to this discussion, however, it is necessary first to address a claim made by Gary Tomlinson about the prevalence of magical thinking in late Renaissance music, and second to outline in more detail the role music played in the hermetic philosophy of the macrocosm/microcosm relationship.

**Magic in Renaissance Music, a response to Tomlinson**

Near the end of Gary Tomlinson’s *Music in Renaissance Magic* he provides a lengthy comparison of two madrigals by Monteverdi from opposite ends of his career. Tomlinson contends they demonstrate a changing conception of musical language: “Sfogava con le stelle,” from the fourth book of madrigals (1603), and *Lament of the Nymph*, from the eighth book (1638). They are among Monteverdi’s most famous compositions, “Sfogava con le stelle” in part for its declamatory rhythms allowing a five-voice chorus to sound as one, and *Lament of the Nymph* for its descending tetrachord. In both Monteverdi also skillfully captures the shifting emotions of the poetry through expressive musical gestures, or madrigalisms. Tomlinson points out as examples the harmonic dissonance on the words “il suo dolore” and “pietosa” in “Sfogava con le stelle,” as well as the melisma on “vivi arodir,” and the pictorialisms in the *Lament*.

In comparing the two works, Tomlinson argues that they demonstrate a change from a magical system of similitudes to one of representation. Regarding “Sfogava con le stelle,” and madrigals composed around 1600 in general, Tomlinson writes, “the emblematics of the late Renaissance madrigal may be understood... as a primary musical

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The madrigal, for Tomlinson, was the genre in which the complex system of macrocosm/microcosm connections that will be reviewed in this chapter are most thoroughly integrated into a musical language: “madrigalisms captured most unequivocally the functions of signs and language in magical discourse.”\footnote{Ibid., 237.} In the \textit{Lament}, however, Tomlinson argues that the madrigalisms and the descending tetrachord serve a different purpose: they do not “replicate in form or substance some element of the nonmusical world.”\footnote{Ibid.} He then proceeds with his “archaeological approach” to reveal how musical emblems shifted in the first few decades of the seventeenth century alongside changing conceptions of understanding that began in the early years of the Age of Reason.

Tomlinson’s argument regarding the \textit{Lament} is not of great concern here, as the music in the present study was all composed before the shift Tomlinson identifies. Some consideration must be given, however, to his claim that late Renaissance madrigals musically embody the language of universal similitudes that defined magical and astrological practice at the time. Complex systems existed in which things of the earthly realm (plants, animals, minerals, colors, emotions, humors, etc.) were directly linked to those of the celestial and supercelestial (planets, astrological signs, muses, angels, etc.), some of which are reviewed below. Music was thought to exist in both planes, which is why planetary movements were often expressed in musical vocabulary and many...
composers sought to imitate the music of the angels.\textsuperscript{16} In Tomlinson’s argument, the madrigal utilized this chain of resemblance and signatures to provide meaning and expression to a poem. All madrigals were, in this way, therefore “magical,” as he writes, “in the magical episteme, a madrigalism was an instance of ontological discovery, an uncovering of a specific series of musical, verbal, and objective connections in a world of similitude.”\textsuperscript{17}

The composer, it would appear, need not be aware of any “magical” connection in the music; but instead the language and system of understanding of the day thoroughly permeated the music. Madrigalisms, such as a rapid melisma paired with texts depicted vivid, usually happy emotions, were in the Foucauldian sense, “almost the same thing” as the emotion itself: near enough that they were indistinguishable when understood through the magical order of similitudes.\textsuperscript{18} The melisma, therefore, did not simply represent joy or happiness, it was joy or happiness, or was close enough that the two were nearly indistinguishable. In the same way, when a poem evoked or directly mentioned Mars, which was associated with anger and violence, the composer would often musically depict these emotions through dissonance or disjointed voices, becoming anger itself and therefore nearly equal to Mars. These associations between a musical device and a particular word, description, or emotion would have been understood by the listener who existed in a world in which all things were believed to be connected. The modern-day


\textsuperscript{17} Tomlinson, \textit{Music in Renaissance Magic}, 238.

\textsuperscript{18} Tomlinson, 239, cites Michel Foucault, \textit{The Order of Things: An Archaeology of the Human Sciences} (New York: Random House, 1970), 64.
listener, however, is unable to comprehend these correlations without a great deal of study and effort, and even then it might be impossible fully to hear the music with a late-Renaissance mindset.

In general, I agree with Tomlinson’s assessment, controversial as it may be, that much secular music surrounding 1600 incorporated the “magical” view of similitudes, whether intentionally or not. Like most claims about the function of art in history, it is difficult to offer evidence that composers were aware of these connections. Conversely, if Tomlinson’s assessment is correct, the composers would not have been aware that their practice was in any way magical, at least in the way we define the word in modern society, as it was simply a reflection of reality as it was understood at the time. Today, for something to be magical it has to somehow bend the commonly accepted rules of existence; if the magical chain of similitudes was the accepted rule, however, then a composer, poet, or artist incorporating this chain into his or her work was not utilizing magic, but merely participating in the zeitgeist. We know from historical documents, however, and in particular materials from the church, that this magical view of the universe was not accepted everywhere.19 Moreover we know that magicians, alchemists, and sooth-sayers, those who made a living by exploiting and sometimes manipulating the chain of similitudes, were often viewed suspiciously even at Rudolf II’s court, a topic which we explored in the last chapter in regards to Giordano Bruno, John Dee, Edward Kelley. While it may be true that the composers Tomlinson discussed participated in magical discourse through their music, and many of their listeners in fact heard the music

through such a filter, it is difficult to claim that all secular madrigals participated in this trend.

A question that Tomlinson does not address was whether composers knowingly or unknowingly utilized the chain in their sacred works. The nine groups of angels often sat atop the various depictions of correspondences produced in the late Renaissance, and it was widely held that the angels sang in constant praise of God, just as the planets did, in a range that was inaudible to human ears. Willem Elders claims that several composers did indeed write music intended symbolically to represent the angels singing, or meant to be read and sung by the angels themselves.\textsuperscript{20} Elders does not claim, though, that this music was meant to bring about some specific event on earth other than the normal aims of sacred music of worship, praise, and edification, or that the music held any connection to the magical view of the universe.

Drawing upon the works of Tomlinson and Elders, and numerous others who will be cited throughout this study, I shall explore how musical compositions fit into the magical understanding of the universe from the time. That some composers may have unknowingly incorporated the chain of similitudes to express the content of a poem, which today we may term as “magical,” is informative; more than this issue, however, I am concerned with determining where composers at Rudolf’s court actively and identifiably utilized this chain to produce some sort of effect in both their secular and sacred works. Identifying such occurrences would, I contend, be significant in determining the role of magic in Renaissance music.

The Hermetic Composer’s Toolbox

It is easy when discussing esoteric music to get lost in grandiose visions of the music of the spheres or music magically curing diseases, and forget the simple elements of music that could be influenced by mystical thinking. It is therefore prudent to concentrate first on those elements that would have been most easily incorporated by a composer for a mystical aim. Though many mystics and eventually scientists discussed music as a grand representation of the heavens, only a few provided specific instructions for composers on how to emulate that vision. Their directives were based on the familiar elements of music: mode, intervals, number of voices, and text. The rest of this chapter outlines what mystical authors and music theorists of the Renaissance wrote about specific compositional elements and how properly to utilize them for a magical purpose. Some authors have no doubt been unintentionally left out of the following summary due to the large number of magical treatises that remain difficult to obtain; I have tried, however, to discuss the significant writers whose works would likely have been known in Rudolf’s court and held in his immense library of arcane and occult texts, the largest of its kind in Europe.

I have chosen to border one end of my survey chronologically with the writings of Marsilio Ficino (1433-1499), in part to limit the scope to a more manageable body of materials, and also because his work marked a shift in magical/musical thinking that seemed to last until the early years of the seventeenth century. Claude V. Palisca described Ficino’s importance as follows:
Ficino, by making the *Timaeus* accessible through his translation and commentary, gave the speculation about cosmic harmony a fresh and fruitful new direction. Cosmic harmony ceased to be a representation of the world in eternal balance; it became a play of forces that had moral consequences, that could influence and be influenced by men and demons...Through the world soul the individual human could aspire to participate in cosmic harmony and absolute virtue.\(^{21}\)

Much has been written about Ficino’s influence on magical and humanistic thought in the fifteenth and sixteenth centuries, so there is little reason to repeat those arguments here, nor is there cause to rehash his role in reviving the songs of Orpheus. Evans and Marshall have outlined the influence that Ficino had in Rudolf’s Prague, and not surprisingly nearly all of Ficino’s works were present in Rudolf’s library.\(^{22}\)

I am bordering the other end of my survey with the early works of Johannes Kepler, Rudolf’s personal astrologer and astronomer. Kepler is known to musicologists primarily for his *Harmonices Mundi* of 1618, but as its publication came after the time of most of the works that will be examined in this study, I shall save discussion of it until Chapter 5. Scattered throughout Kepler’s earlier writings, however, and dating back to the late sixteenth century, are directives regarding how composers could more accurately integrate astrological and astronomical theory into their works. His early work is primarily built upon the writings of Ptolemy, incorporating the astrologer’s theories on how certain astrological phenomena are replicated in music. Later in his life he changed his beliefs on how music and astrology were linked, as will also be discussed in Chapter


5, but early in his career, and during most of Rudolf’s reign, he was one of the strongest supporters of a literal interpretation of the harmony of the spheres.

*Planetary Song*

Before examining his specific directives, it is worth briefly discussing Ficino’s three rules for composing planetary song as laid out in *De vita libri tres* (1489) because they provide a framework for the directions that will be given below. It was Ficino’s aim to capture the beneficial aspects of specific planets for the good of the magus or a patron.

The rules are as follows:

We apply three principal rules, provided you be warned beforehand not to think we are speaking here of worshipping the stars, but rather of imitating them and thereby trying to capture them. . . The first is to inquire diligently what powers in itself or what effects from itself a given star, constellation, or aspect has – what do they remove, what do they bring? – and to insert these into the meaning of our words, so as to detest what they remove and to approve what they bring. The second rule is to take note of what special star rules what place or person and then to observe what sorts of tones and songs these regions and persons generally use, so that you may supply similar ones, together with the meaning I have just mentioned, to the words which you are trying to expose to the same stars. Thirdly, observe the daily positions and aspects of the stars and discover to what principal speeches, songs, motions, dances, moral behavior, and actions most people are usually incited by these, so that you may imitate such things as far as possible in your song, which aims to please the particular part of heaven that resembles them and to catch an influence that resembles them.\(^2^3\)

In sum, a composer should begin with a text that reflects the specific influence that a particular planet wields. Next, though seemingly a step that should be taken first, the composer should observe which specific planet or sign has influence over a place or person and attempt to imitate that influence through a text that reflects the planet. Finally,

\(^2^3\) Ficino, *Three books on Life*, 357.
observations should be made as to what types of music, speech, and dance wields influence so that they may be imitated in the music. Though Ficino’s directives are frustratingly vague, we have here an endorsement of the chain of similitudes discussed above. All a composer needs to do, as if this were an easy task, is determine which planets already wield influence over a person or place, choose one for their inherent beneficial (or potentially harmful) effect, and imitate that planet’s characteristics through text and music. The resulting music would be, as described above, “almost the same” as the planet itself in terms of its influence over the listener. Fortunately for a composer wanting to follow Ficino’s directives, even if lacking in astrological knowledge and techniques, over the next century and a half, up to and including the reign of Rudolf II, several writers beginning with Ficino offered specific instructions as to which modes, pitches, intervals, etc. matched the planets. These instructions are summarized below.

Text

As per Ficino’s instructions, one of the most important elements in composing planetary music is the selection of the text. For Ficino and several of the magi that followed him, the optimal choice was the hymns of Orpheus, sometimes called the Orphica, a collection of 87 short religious poems that were believed by many in the Renaissance to have originated from the cult of Orpheus or from Orpheus himself, though they were actually likely composed in the second or third century AD. The hymns were

probably originally used by a religious sect as they include several divine incantations, in particular directed to the Sun, by giving their various names and therefore invoking the numerous powers.\textsuperscript{25} Orpheus was a mythical hero to Renaissance magi and musicians since it was believed that his legendary musical power to charm rocks, trees, and animals stemmed not only from his ethereal singing voice, but from his divine inspiration as a poet and teacher.\textsuperscript{26} Orpheus was also revered for identifying three religious truths in the \textit{Orphica} long before the time of Jesus (and perhaps even before the time of Moses),\textsuperscript{27} thereby demonstrating his divine nature. The truths were monotheism, the trinity, and an accurate recounting of the creation story as later told in \textit{Genesis}.\textsuperscript{28} The inclusion of direct and indirect references to these three Christian elements justified Ficino and later magi in employing the \textit{Orphica} in religious or secular applications. Guy Lefèvre de la Boderie, for example, wrote a lengthy poem nearly one hundred years after Ficino’s death that integrated Orphic fragments with verses from the Psalms in order to demonstrate their shared divine inspiration.\textsuperscript{29}

Ficino argued that Orpheus was possessed by the four \textit{furores}: poetic, prophetic, religious, and amorous, and was therefore gifted with supernatural ability in word and song. He further claimed that he frequently employed the Orphic hymns for his own magical practice. In so doing, he held that he was reviving an ancient form of religious

\textsuperscript{25} See Yates, \textit{Giordano Bruno} \textit{78}.
\textsuperscript{26} See Walker, “Orpheus the Theologian and Renaissance Platonists,” \textit{100}.
\textsuperscript{27} Yates, \textit{Bruno}, \textit{18-26}.
\textsuperscript{28} Walker, “Orpheus,” \textit{109-19}.
\textsuperscript{29} See Walker, \textit{101}.
singing as practiced by the *priscus magus* who pre-dated Plato.\textsuperscript{30} As quoted on page 49, Pico della Mirandola, Ficino’s disciple, continued the practice of signing the *Orphica*, claiming, “nothing is more effective in natural magic than the hymns of Orpheus, if the correct music, intent of the soul, and other circumstances known to the wise were to be applied.”\textsuperscript{31} He later wrote, perhaps sensing that some religious authorities may be uncomfortable with the incantations in the *Orphica*, “the names of the god of which Orpheus sings are not those of deceiving demons, from whom comes evil and not good, but are names of natural and divine virtues distributed throughout the world by the true God for the great advantage of man, if he knows how to use them.”\textsuperscript{32} Yates argues, though, that Pico’s Orphic magic was more powerful than Ficino’s because of the inclusion of religious texts, mainly the Psalms, and the adoption of the cabbala. Pico wrote that the *Orphica* held no magic power until “the work of cabbala” is added, though the way in which this was done is difficult to determine.\textsuperscript{33} He likely referred to an inclusion of number symbolism or musically invoking the Hebrew spellings of the text.

Beyond the *Orphica*, Ficino’s directives suggest using texts that specifically mention the planets or zodiac signs themselves. In so doing the composer could easily apply the musical techniques that will be discussed shortly or reference the influence those planets hold over the earth. Ficino implies that references to the influences and qualities of a specific planet would produce the same result as the planet itself as they were, in the sense discussed above, “nearly the same thing.” Each planet had an assigned

\textsuperscript{30} Yates, 78.
\textsuperscript{32} Quoted in Yates, 90.
\textsuperscript{33} Yates, 104.
affectus or otherwise appropriate function in astrological tradition. Ramos de Pareia provided the following list of correspondences, in the traditional astrological order of the late fifteenth century, that is with the sun between Mars and Venus, in his *Musica practica*, which will be discussed in more detail below.\(^3^4\) A text that mentions specific planets or rouses these emotions provides composers a clear-cut opportunity to employ the musical tools discussed below.

<table>
<thead>
<tr>
<th>Planet</th>
<th>Emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moon</td>
<td>Sad, Doleful, Sluggish</td>
</tr>
<tr>
<td>Mercury</td>
<td>Fawning, Garrulous, Flattering</td>
</tr>
<tr>
<td>Venus</td>
<td>Pious, Tearful</td>
</tr>
<tr>
<td>Sun</td>
<td>Rousing, Suitable for all affects</td>
</tr>
<tr>
<td>Mars</td>
<td>Severe, Anger</td>
</tr>
<tr>
<td>Jupiter</td>
<td>Delightful, Joyful, Modest</td>
</tr>
<tr>
<td>Saturn</td>
<td>Pleasant, Lascivious, Inspires Youthful Behavior</td>
</tr>
<tr>
<td>Starry Firmament</td>
<td>Sweet, Beautiful</td>
</tr>
</tbody>
</table>

**Pitch and Mode**

As James Haar and Gary Tomlinson have observed, a correlation of specific planets to specific tones, modes, zodiac signs, and muses was first established in the late fifteenth century by rival music theorists Franchino Gaffurio and Ramos de Pareia.\(^3^5\) The eight modes were joined to the planets and a pitch was then assigned to each mode-planet

\(^3^4\) Adopted from Tomlinson, 80f.
relationship, followed by a muse in an association likely taken from Martianus Capella. In *De harmonia musicorum instrumentorum opus*, published in 1518 but likely written by at least 1500, Gaffurio confirmed the relationship between each planet and its house of the zodiac, in an arrangement borrowed from second-century astrologer Claudius Ptolemy. Leo, for example, is in the house of the sun and therefore linked with Dorian mode, while Capricorn is in the house of Mars and therefore linked with Phrygian mode. Figure 2.2 shows the frontispiece of Gaffurio’s *Practica Musicae*, which was later reprinted in *De harmonia musicorum instrumentorum opus*. Table 2.2 transcribes this information and all of the associations.

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Figure 2.2 Franchino Gaffurio, Practica Musicae, Frontispiece (1496)
**Table 2.2 Music/Planet Associations according to Franchino Gaffurio and Ramos de Pareia**

<table>
<thead>
<tr>
<th>Planet</th>
<th>Zodiac Sign</th>
<th>Mode</th>
<th>Tone</th>
<th>Muse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starry Firmament</td>
<td>- - -</td>
<td>Hypermixolydian</td>
<td>Mese</td>
<td>Urania</td>
</tr>
<tr>
<td>Saturn</td>
<td>Aquarius</td>
<td>Mixolydian</td>
<td>Lichanos meson</td>
<td>Polyhymnia</td>
</tr>
<tr>
<td>Jupiter</td>
<td>Sagittarius</td>
<td>Lydian</td>
<td>Parhypate meson</td>
<td>Euterpe</td>
</tr>
<tr>
<td>Mars</td>
<td>Capricorn, Aries, Scorpio</td>
<td>Phrygian</td>
<td>Hypate meson</td>
<td>Erato</td>
</tr>
<tr>
<td>Sun</td>
<td>Leo</td>
<td>Dorian</td>
<td>Lichanos hypaton</td>
<td>Melpomene</td>
</tr>
<tr>
<td>Venus</td>
<td>Taurus, Libra, Pisces</td>
<td>Hypolydian</td>
<td>Parhypate hypaton</td>
<td>Terpsichore</td>
</tr>
<tr>
<td>Mercury</td>
<td>Gemini, Virgo</td>
<td>Hypophrygian</td>
<td>Hypate hypaton</td>
<td>Calliope</td>
</tr>
<tr>
<td>Moon</td>
<td>Cancer</td>
<td>Hypodorian</td>
<td>Proslambanomenos</td>
<td>Clio</td>
</tr>
</tbody>
</table>

This system of planet-sign-mode-tone-muse associations was repeated by several other scholars over the next century. Agrippa provided a nearly verbatim repetition of the Gaffurio/Ramos model in *De occulta philosophia* in 1533, which also included an extensive discussion of hermetic philosophy and ritual magic.\(^{39}\) Agrippa’s writings had a cult-like following in Rudolfine Prague, as historian Peter Marshall has shown, and *De occulta philosophia* was owned by libraries in both Habsburg Prague and Vienna.\(^{40}\)

According to Frances Yates, Agrippa sought a far more powerful magic than was possible in “Ficino’s Orphic singing.”\(^{41}\) Employing an exhaustive system of names, attributes, and powers of the planets, Agrippa claims that the ambitious Magus could

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\(^{38}\) Information combined from Haar, 7-14 and Tomlinson 80f. See also Gaffurio 182-89, 201.

\(^{39}\) Tomlinson, 94-98.

\(^{40}\) Marshall, 101.

attract the full influence of the planets. The modes, therefore, are but one element at the disposal of those looking for such power.\footnote{Ibid., 136-49.}

Heinrich Glarean repeated the assignment of the pitches corresponding to particular planets in the \textit{Dodecachordon} (1547), attributing the system to Boethius, as shown in Figure 2.3.\footnote{Heinrich Glarean, \textit{Dodecachordon}, trans. Clement A. Miller (American Institute of Musicology, 1965) 134-37.} In the same diagram, however, he also displayed Cicero’s opinion, which arranges the pitches differently. Cicero, as Glarean explained, assigned longer strings to “greater bodies” (\textit{superioribus corporibus}), that is, planets further from the earth, while “smaller bodies” (\textit{inferioribus corporibus}), or planets closer to the earth, are given shorter strings.\footnote{Henrichus Glareanus, \textit{Dodecachordon : Facsimile of the 1547 Basel Edition} (New York: Broude Brothers, 1967), 95, book 2, Chapter 13.} In Figure 2.3, the eight celestial bodies are at an angle in the upper left. Boethius’s system is given in the bottom left, in Greek, while Cicero’s system is in the bottom right. Glarean did not discuss any relationships between the modes and specific planets, and in fact seems to dismiss the whole concept entirely. Near the end of the chapter, he wrote:

Nevertheless, to indicate finally what we really think, we say frankly that this seemed to Aristotle to be an invention not without basis, and a saying more pleasant than actually true. In fact, if one should wish to link these subjects, so to speak, he will indeed find that the intervals of planets do not fit musical intervals at all, nor will he find present any definite relationship of sound either in the subject or in the effecting agent, as physicists state it. But this indulgence is allowed to antiquity, which has thought that the human mind must be raised in every possible way to the contemplation of heavenly objects. If I had not seen this discussed by great writers, I would have passed over in silence whatever concerns music art, without any censure, I believe, but those conception which antiquity has made immortal with so great authority must certainly not be esteemed lightly;
none the less, guided by trust, we must proceed with the matter at hand as it exists.45

Figure 2.3 Heinrich Glarean, Dodecachordon (1547)46

It does not appear that Glarean’s near dismissal of the planet/mode/pitch correspondences held much sway in Rudolf’s Prague. This is most clearly seen in the exhaustive efforts by Johannes Kepler to redefine the music of the spheres, discussed in Chapter 5. Certain elements of Ramos’s system were also repeated by Giordano Bruno. In *Thesis de Magia*, written in 1589 while he was working in Prague, Bruno restated in identical terms Ramos’s posited relationships between planets and modes, from which we may infer that the connection among the three was a tenet of hermetic theory at Rudolf’s court.\(^{47}\)

In addition to assigning each planet a mode, pitch, and muse, in *Musica Practica* Ramos had also given each group a medical value by writing that they controlled either the increase or decrease of a particular bodily humor, which was also repeated by Bruno while writing in Prague.\(^{48}\) The four humors of Hippocratic medicine, black bile, yellow bile, phlegm, and blood, were an integral part of Renaissance medicine, and the theory held that when the humors were out of balance a person became unhealthy. As most disabilities and diseases were seen as caused by this imbalance, the physician’s goal (or magician’s, alchemist’s, and possibly composer’s) was to balance these humors when a patient was ill. In addition to the normal methods of balancing the humors, such as diet and activity, Ramos wrote that the proper application of the modes had the power to increase or decrease a humor. The authentic and plagal modes were both included and were given opposite effects over a particular humor. For example, Phrygian mode


\(^{47}\) Giordano Bruno, *Lampas triginta statuarum; Libri physicorum Aristotelis explanati; De magia et Theses de magia; De magia mathematica; De principiis rerum, elementis et causis; Medicina Lulliana; De vinculis in genere III* (Stuttgart-Bad Cannstatt: Friedrich Frommann Verlag Gunter Holzboog, 1962), 477.

\(^{48}\) All of the relationships are given in Tomlinson, *Music in Renaissance Magic*, 80f.
increases yellow bile in the listener, which affects the choleric temperament that is linked to aggression, energy, and passion, and would be applied to someone lacking vigor.

Hypophrygian mode decreases yellow bile, and would be useful for someone with too much passion and prone to mood swings. Armed with this knowledge, composers would theoretically be able to satisfy specific directives of their patrons to aid in their healing, or perhaps to self-medicate. The mode/humor correlations were as follows:49

<table>
<thead>
<tr>
<th>Bodily Humor</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ phlegm</td>
<td>Hypodorian</td>
</tr>
<tr>
<td>– yellow bile</td>
<td>Hypophrygian</td>
</tr>
<tr>
<td>– blood</td>
<td>Hypolydian</td>
</tr>
<tr>
<td>– black bile</td>
<td>Hypomixolydian</td>
</tr>
<tr>
<td>– phlegm</td>
<td>Dorian</td>
</tr>
<tr>
<td>+ yellow bile</td>
<td>Phrygian</td>
</tr>
<tr>
<td>+ blood</td>
<td>Lydian</td>
</tr>
<tr>
<td>+/- black bile</td>
<td>Mixolydian</td>
</tr>
</tbody>
</table>

There also existed a complex system of correlating modes with the ability to affect certain emotions. These associations are better known to musicologists, thanks to the work of Claude Palisca, Bernhard Meier, and Anne Eusterschulte, to name a few.50

Modes were often assigned to particular affects or emotions and composers would

theoretically use a corresponding mode to match with a specific element of the text. Bernhard Meier has shown that several theorists propagated this method in the Renaissance, but that it was not always a clearly defined system. Indeed, the same text may be set in different modes by different composers, perhaps because they chose to highlight a particular element of the text.\textsuperscript{51} Other characteristics beyond text could further influence mode selection, such as range or a prominent number in the text itself.\textsuperscript{52}

It is not the purpose of this study to review the affections, nor their adoption from antiquity, but it is useful to make comparisons with the astrological system propagated by Ramos reviewed in Table 2.1. For our purposes I will list the associations given by three of the most important Renaissance theorists, Gaffurio, Glarean, and Zarlino. Gaffurio had urged his readers in \textit{Practica musice} of 1496 to base their selection of mode on the mood they wished to express, but it was not until \textit{De harmonia musicorum instrumentorum} that specific directives were finally presented, based on both astrological associations and those given by tradition.\textsuperscript{53} He accompanied each description of the mode also with its corresponding planet. For example, of Mixolydian, Dorian, and Hypermixolydian, he wrote:

The Mixolydian is ascribed to Saturn (as it is higher than the other modes we discussed and is considered to have command of lamentation). The Dorian is correctly compared to the sun, for in its median position among the seven primary modes it shares its own tetrachord with the other modes; the sun has a median position among the seven planets and customarily gives light or heat to other planets from its own rays....The Hypermixolydian, the highest mode of all, is attributed to the firmament as a participant of that sublime and divine harmony free of corruptible properties.\textsuperscript{54}

\textsuperscript{51} Meier, 183.
\textsuperscript{52} Ibid., 184f.
\textsuperscript{53} See Palisca, \textit{Music and Ideas}, 73.
\textsuperscript{54} Gaffurio, 189.
Zarlino, in his *Le Istitutioni Harmoniche* (1558), was not preoccupied with the planetary assignments, but instead drew upon the work of the ancients for his designations.\(^{55}\)

Glarean, who as we have seen was not overly concerned with any relationship between the modes and planets, or any element of music mixing with astrological theory, also drew heavily upon the ancients in determining the associations.\(^{56}\) His goal was primarily to propagate the idea of a twelve-mode system rather than an eight-mode system, but in his discussions he still gave the traditional affect of each mode.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Planet</th>
<th>Ramos</th>
<th>Gaffurio</th>
<th>Glarean</th>
<th>Zarlino</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorian</td>
<td>Sun</td>
<td>rousing, suitable for all affects</td>
<td>constant, severe</td>
<td>grave, prudent, dignified, modest</td>
<td>prudence, modesty, full of wisdom</td>
</tr>
<tr>
<td>Hypodorian</td>
<td>Moon</td>
<td>sad, doleful, sluggish</td>
<td>slow, slothful, sluggish</td>
<td>severe, forbidding, submissive</td>
<td>laziness, indolence</td>
</tr>
<tr>
<td>Phrygian</td>
<td>Mars</td>
<td>severe, anger</td>
<td>incites to anger, war</td>
<td>mournful, incites to battle</td>
<td>inflaming, anger, wrath, lust</td>
</tr>
<tr>
<td>Hypophrygian</td>
<td>Mercury</td>
<td>fawning, garrulous, flattering</td>
<td>quiet, grave, calms excitement</td>
<td>melancholic, plaintive</td>
<td>calming, recalling from battle</td>
</tr>
</tbody>
</table>

---


\(^{56}\) Glarean, *Dodecachordon*, trans. Clement A. Miller, 142-75.

\(^{57}\) Chart partially adapted from Palisca, *Music and Ideas in the Sixteenth and Seventeenth Centuries* (Champaign: University of Illinois Press, 2006), 76-81.
### Table 2.4 Continued

<table>
<thead>
<tr>
<th>Mode</th>
<th>Planet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lydian</td>
<td>Jupiter</td>
<td>delightful, joyful, modest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weeping, lamenting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>convivial, Bacchic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weeping, mournful</td>
</tr>
<tr>
<td>Hypolydian</td>
<td>Venus</td>
<td>pious, tearful</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tearful, lamenting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pleasing, not elegant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>softness, sweetness</td>
</tr>
<tr>
<td>Mixolydian</td>
<td>Saturn</td>
<td>pleasant, lascivious, inspires youthful behavior</td>
</tr>
<tr>
<td></td>
<td></td>
<td>exciting, withdrawn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>suitable for praises</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tranquil, serene, restoring the spirit</td>
</tr>
<tr>
<td>Hypermixolydian</td>
<td>Starry Firmament</td>
<td>sweet, beautiful</td>
</tr>
<tr>
<td></td>
<td></td>
<td>merry, happy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>natural charm, sweetness</td>
</tr>
<tr>
<td>Aeolian</td>
<td></td>
<td>pleasant seriousness, sweetness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cheerful, mild, sweet</td>
</tr>
<tr>
<td>Ionian</td>
<td></td>
<td>dancing, sweetness, wantonness</td>
</tr>
</tbody>
</table>

As can be seen from Table 2.4, there was a great deal of agreement between the four systems, though the designations given by Ramos often stand out as unusual. The affects for Hypodorian, Phrygian, Hypolydian, and Hypermixolydian match closely with affects prescribed for their specific modes by the four authors. The assignments for Dorian, which were mostly severe, modest, and prudent, are similar for three of the authors, with Ramos being the sole outlier. Ramos also differed in his assessment of Lydian mode with Gaffurio and Zarlino, though Ramos’s “joyful” designation of Lydian is similar to the “Bacchic” nature assigned by Glarean. Finally, Ramos’s labeling of Hypophyrgian as “garrulous” and “flattering” differed greatly from the “quiet, grave, melancholic, and calming” labels assigned by the other three authors. Ramos based his
system on the traditional astrological characteristics of the planets, rather than on the
accepted knowledge of the ancients and personal experience regarding the modes, as is
mostly the case with Gaffurio, Glarean, and Zarlino, explaining some of the differences.58
Furthermore, the three later writers also found that linked modes have opposite effect: for
example the warring nature of Phyrgian verse the calming nature of Hypophyrigian.

Interval

Since the writings of Ptolemy, a theory existed in which musical intervals were intimately
related to angles formed by two planets as seen from earth, known as the aspects. With
the earth serving as a vertex, the position of each planet is mapped onto the zodiac, and
aspects occur when two planets form a geometrically significant angle, that is a ratio to
the whole that has low digits, such as at 1:2 or 3:4. Figure 2.4 is a depiction in the
traditional astrological manner of an angle of 60 degrees, known as a sextile aspect, in
Leo and Gemini between Jupiter and Mars as seen from the earth. The level and kind of
influence wielded by an aspect is determined by which angle is formed, smaller ratios
being more influential, and which planets are involved; each planet, including the sun and
moon, has specific astrological qualities that when combined to differing degrees with
those of other planets result in different effects.

58 Tomlinson, *Music in Renaissance Magic*, describes Ramos’s intent as “to unite the chief medium of
musical psychology, the humors, with the agents of heavenly music, the planets, through their common
musical association to the modes,” 78.
During most of his career Johannes Kepler saw a strong connection between the planetary aspects and the ratios of musical intervals. The opposition aspect of 180 degrees, for example, is identical to the octave and its ratio of 2:1, because 180 is half of the whole, 360. Based on this connection, Kepler spent much of his career developing a theory regarding the correlation between music and the aspects. Ultimately he would determine that the two were not directly related, but what concerns us in this chapter is the views Kepler held and published prior to 1609. Chapter 5 of this dissertation is devoted to Kepler’s work, but it is worth exploring this component of his theory here, especially because it was one of the first topics regarding music about which he published.

---

The standard interval/aspect relationships, established by Ptolemy in his
*Tetrabiblos*, remained highly influential well into the seventeenth century. He wrote that
the power and significance of the astrological aspects is derived from analogy with the
ratios of consonant musical intervals.\(^6^0\) The most powerful aspects were those that
matched the Pythagorean ratios of the most consonant intervals, the unison, octave,
perfect fifth, and perfect fourth. The ratios 1:1, 2:1, 3:2, and 4:3, contained the actual
power and could be manifested through either the musical intervals or the aspects,
specifically the conjunction, opposition, trine, sextile, and quartile, as shown in Table 2.5.
In addition to the four major and one minor Ptolemaic aspects, Kepler added three
additional aspects in *Mysterium Cosmographicum* (1596) to account for the remaining
musical consonances, a significant break with traditional astrology that was prompted by
contemporary music theory, namely Zarlino’s decision in 1558 to consider thirds and
sixths as consonances.\(^6^1\) Kepler was a strong proponent of this development and applied
it to astrology by proposing three new aspects to correspond to the newest consonances:
the Quintile aspect of 72° linked with the major third, the Biquintile aspect of 144° linked
with major sixth, and the Sesquiquadrate aspect of 135° linked with the minor sixth.\(^6^2\)
These Keplerian aspects remain an essential part of modern astrological practice.\(^6^3\)

original Latin is available in Kepler *Astronomi Opera Omnia*, Vol.1, ed. C. Frisch. See also Kepler, *The
Harmony of the World*, 192.
\(^6^2\) A thorough discussion of Kepler and the aspects has recently been written in David Juste, “Musical
Theory and Astrological Foundations in Kepler: The Making of the New Aspects,” in *Music and
\(^6^3\) Most current astrological writings are found online. For a website that deals specifically with the aspects
Table 2.5 Ptolemaic and Keplerian Designations for Planetary Aspects and Musical Intervals

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Angle</th>
<th>Ratio</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ptolemaic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conjunction</td>
<td>0°</td>
<td>1:1</td>
<td>Unison</td>
</tr>
<tr>
<td>Opposition</td>
<td>180°</td>
<td>2:1</td>
<td>Octave</td>
</tr>
<tr>
<td>Trine</td>
<td>120°</td>
<td>3:2</td>
<td>Perfect Fifth</td>
</tr>
<tr>
<td>(minor)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartile (square)</td>
<td>90°</td>
<td>4:3</td>
<td>Perfect Fourth</td>
</tr>
<tr>
<td>Sextile</td>
<td>60°</td>
<td>6:5</td>
<td>Minor Third</td>
</tr>
<tr>
<td>Keplerian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quintile</td>
<td>72°</td>
<td>5:4</td>
<td>Major Third</td>
</tr>
<tr>
<td>Biquintile</td>
<td>144°</td>
<td>5:3</td>
<td>Major Sixth</td>
</tr>
<tr>
<td>Sesquiquadrate</td>
<td>135°</td>
<td>8:5</td>
<td>Minor Sixth</td>
</tr>
</tbody>
</table>

Ficino had written his own designations regarding how astrological phenomena should be mimicked by musical intervals, though he concentrated on aspects occurring within specific signs of the zodiac.\(^{64}\) In a private letter to Domenico Benivieni, a Florentine priest, theologian, and philosopher belonging to the Domenican order, Ficino outlined correspondences between the zodiac signs and intervals.\(^{65}\) The letter, however, was likely not known in Rudolf’s Prague, as it is one of the few writings by Ficino that was not reprinted during the sixteenth century. It will still be useful to review his conception of music’s relationship with astrology to compare it with the Ptolemaic/Keplerian system, but less important to attempt to apply it to compositions from the sixteenth century as it was unlikely to have been well-known.

---

64 Kepler, as will be discussed in Chapter 5, was dismissive of the importance of the zodiac signs, which therefore play little role in his music theory.

Ficino began by reviewing the ratios of music, notably describing the third as a consonant and the fourth as partially dissonant. He then described a musical scale by using a tuning system that seems to be built upon consonant thirds and sixths, rather than the Pythagorean system of building the scale based on perfect fifths. Angela Voss and William R. Bowen argue that Ficino’s choice reflected both contemporary musical practice and astrological theory. Certain intervals are more pleasing than others, Ficino went on to argue, because their ratios include smaller digits, and are therefore closer to the number one, which is perfection. Astrology, he wrote, works in a similar way in that planets positioned in two adjacent zodiac signs feature a ratio of large digits (12:11), and are therefore dissonant, while planets positioned in zodiac signs a third apart (5:4) are pleasant together. The chart below includes information from Ficino’s discussion of which signs correspond to certain intervals and aspects, when beginning from the sign Aries. He supplemented each sign with a brief comment on how the musical interval and astrological theory are in agreement. The 7th sign when combined with the 1st, for example, is angular and in high discord, with the 8th sign is seen as one of death, followed by rebirth and new beginnings.

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67 Voss, Marsilio Ficino, 189-214.
Table 2.6 Ficino’s Astrological Music

<table>
<thead>
<tr>
<th>Note</th>
<th>Sign</th>
<th>Interval</th>
<th>Aspect</th>
<th>Ficino’s Astrological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ut</td>
<td>Aries</td>
<td>Unison</td>
<td>Conjunction</td>
<td></td>
</tr>
<tr>
<td>Re</td>
<td>Taurus</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>Semi-sextile</td>
<td>Dissonant from the 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mi</td>
<td>Gemini</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>Sextile</td>
<td>Friendly with the 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Fa</td>
<td>Cancer</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Quartile (square)</td>
<td>Moderately dissonant</td>
</tr>
<tr>
<td>Sol</td>
<td>Leo</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Trine</td>
<td>Benevolent with the 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>La</td>
<td>Virgo</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Quincunx</td>
<td>Frail, weak</td>
</tr>
<tr>
<td>Si</td>
<td>Libra</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td></td>
<td>Angular, vigorous in its discord</td>
</tr>
<tr>
<td>Ut</td>
<td>Scorpio</td>
<td>8&lt;sup&gt;va&lt;/sup&gt;</td>
<td>Opposition</td>
<td>Leads to death/rebirth</td>
</tr>
<tr>
<td>Sol</td>
<td>Sagittarius</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>(in other direction)</td>
<td>Looks back like a 5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Fa</td>
<td>Capricorn</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td></td>
<td>Ambition</td>
</tr>
<tr>
<td>Mi</td>
<td>Aquarius</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td></td>
<td>Friendship</td>
</tr>
<tr>
<td>Re</td>
<td>Pisces</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td></td>
<td>Hidden enemies and dissonant</td>
</tr>
</tbody>
</table>

Ficino’s assignment of aspects to intervals mostly agrees with Ptolemy’s system from antiquity and Kepler’s of the late sixteenth century. The main difference between Ficino and Kepler is the aspect assigned to the sixth. Kepler appointed aspects to both major and minor sixths, Biquintile, or 144°, and Sesquiquadrate 135°. Ficino used the Quincunx aspect, which is 150°, or slightly larger than Kepler’s major sixth. The Quincunx aspect is not as astrologically important as the Ptolemaic aspects described above, but was still considered an aspect of intermediate importance, and therefore more significant than the Biquintile and Sesquiquadrate, which were deemed minor aspects and unattached to musical intervals prior to Kepler. He perhaps preferred them because of their greater precision in defining sixths, and, as we will examine in Chapter 5, because he viewed them as more powerful based on their influence over the weather.
Voices

The number of parts in a vocal composition was often not determined by a composer, who wrote for a specific ensemble to perform in a particular place. There were still, however, occasions where a composer seems to have chosen to write for a certain number of voices for a symbolic or mystical reason. During the course of the sixteenth century the average number of voices in a piece slowly increased, so that during the period of Rudolf’s reign compositions for five voices were more prevalent than other polyphonic arrangements. Specific numbers of voices were also used frequently in Prague, including seven, nine, ten, twelve, and twenty-one. These numbers have distinct symbolic relationships with the Christian and magical traditions, as shown in Table. 2.7.

Table 2.7 Symbolic Meanings of Numbers

<table>
<thead>
<tr>
<th>Christian Tradition</th>
<th>Magical Tradition</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Mary’s joys and sorrows, Jesus’ last words on the cross, rest on the seventh day of creation</td>
</tr>
<tr>
<td>9</td>
<td>choirs of angels, perfection (3 x 3), gifts of the spirit(^{68}), fruits of the spirit(^{69})</td>
</tr>
<tr>
<td>10</td>
<td>commandants of Moses, plagues</td>
</tr>
<tr>
<td>12</td>
<td>apostles, numerous appearances in Revelation and end-time prophesies</td>
</tr>
<tr>
<td>21</td>
<td>perfection (3 x 7)</td>
</tr>
</tbody>
</table>

\(^{68}\) 1 Co 12,4-11  
\(^{69}\) Ga 5,22  
\(^{70}\) See William G. Gray, Qabalistic Concepts: Living the Tree (Newburyport, MA : Samuel Weiser, Inc., 1997).
Unfortunately there are often Christian and magical associations for a great deal of numbers, and consequently it can be delicate to attribute great significance on a particular number of voices. Furthermore, few theorists or other writers dealt with this issue. In Glarean’s discussion of the importance of the number seven in music, for example, he made no mention of writing for seven voices, or if there is a symbolic association with the number.\textsuperscript{71} There are some associations given by other authors; for example the traditional four voices of a vocal composition (bass, tenor, alto, soprano) were often associated with the four elements: bass with earth, tenor with water, alto with air, soprano with fire.\textsuperscript{72} The voices were furthermore compared with the four humors, as discussed above, and the four cosmic elements.\textsuperscript{73} Johannes Kepler wrote in\textit{ Harmonices Mundi} that a composer attempting to reflect the divine movements of the planets should write for six voices, one for each planet circling with the earth, but as his work was not published until 1618 it holds little sway here.\textsuperscript{74}

\textit{Scale}

The issue of scale is an intriguing one, as the concept functioned far differently than it does in modern music.\textsuperscript{75} In the sixteenth century, long before the twelve major and minor scales of modern music were stabilized, scales were used more abstractly and less as a compositional tool. Nevertheless, some authors assigned scales to the heavenly

\textsuperscript{71} Glarean, \textit{Dodecachordon}, trans by Clement A. Miller, 132f.
\textsuperscript{72} See Armen Carapeyan, “Music and Medicine in the Renaissance and in the 17\textsuperscript{th} and 18\textsuperscript{th} Centuries,” in\textit{ Music and Medicine}, eds. Dorothy M. Schullian and Max Schoen (New York: H. Schuman, 1948), 122.
\textsuperscript{73} See Zarlino, \textit{Istitutioni III.}, c. 58, and Agrippa, \textit{De occulta philosophia II}, c. 26.
\textsuperscript{74} Kepler, \textit{The Harmony of the World}, 441.
bodies. As noted above in the pitch discussion, there was a traditional scale of the planets passed down by several music theorists, astrologers, and occultists.

\[
\begin{array}{c|c}
 a & \text{starry firmament} \\
 G & \text{Saturn} \\
 F & \text{Jupiter} \\
 E & \text{Mars} \\
 D & \text{Sun} \\
 C & \text{Venus} \\
 B & \text{Mercury} \\
 A & \text{Moon} \\
\end{array}
\]

The earth, it will be recalled, was usually not included as it was believed to remain motionless, therefore producing no sound.

There were several alternate systems proposed during antiquity, and it is worthwhile to highlight a few of them now, though they were far less commonly discussed. Kathi Meyer-Baer has observed that the ancients approached planetary scales in differing manners, disagreeing on which planet is ‘high’ and which is ‘low,’ whether to use a chromatic or diatonic scale, whether to include the Earth, and whether the scale should proceed by step-wise motion or by intervals.\(^{76}\) The second-century rhetorician and poet Alexander Lychnus (Alexander of Ephesos), for example, incorporated the Earth, and used chromatic inflections in his scale:\(^{77}\)

\[
\begin{array}{c|c}
 d & \text{starry firmament} \\
 d \text{ flat} & \text{Saturn} \\
 c & \text{Jupiter} \\
 b \text{ flat} & \text{Mars} \\
 a & \text{Sun} \\
 g \text{ flat} & \text{Venus} \\
 f & \text{Mercury} \\
 e & \text{Moon} \\
 D & \text{Earth} \\
\end{array}
\]

\(^{76}\) Ibid., 74. See also C. van Jan, “Die Harmonie der Spharen,” *Philologus*, 52 (1894), 13ff.

\(^{77}\) Ibid., 73.
Another system attributed to Ptolemy utilized ratios given in Plato’s *Timaeus* to determine the different pitches. The scale and ratios are as follows:

<table>
<thead>
<tr>
<th>Lower</th>
<th>Sign</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>b’</td>
<td>Starry Firmament</td>
<td>36</td>
</tr>
<tr>
<td>a’</td>
<td>Saturn</td>
<td>32</td>
</tr>
<tr>
<td>e’</td>
<td>Jupiter</td>
<td>24</td>
</tr>
<tr>
<td>d’</td>
<td>Mars</td>
<td>21</td>
</tr>
<tr>
<td>b</td>
<td>Sun</td>
<td>18</td>
</tr>
<tr>
<td>a</td>
<td>Venus</td>
<td>16</td>
</tr>
<tr>
<td>e</td>
<td>Mercury</td>
<td>12</td>
</tr>
<tr>
<td>B</td>
<td>Moon</td>
<td>9</td>
</tr>
<tr>
<td>A</td>
<td>Earth</td>
<td>8</td>
</tr>
</tbody>
</table>

As a final example, Ptolemy had offered a cosmic scale in the cryptic, and likely unfinished, final Chapter of his *Harmonics*. Ptolemy’s work, and especially his influence on Kepler, is discussed in Chapter 5, but it is worth giving his scale here for comparison. In Book Three of *Harmonics*, Ptolemy discussed how certain elements of astrology and the movement of the planets relate to music. The astrological aspects, for example, are here compared to musical intervals. Furthermore, different types of specific planetary motion are likened with musical devices: changes in longitude relate to the transition from higher to lower pitches, changes in altitude function as the “harmonic genera” (enharmonic, chromatic, diatonic), and changes in latitude work like modal modulations. The book concludes with a brief chapter in which the planets, oddly excluding Mercury, are assigned Greek musical pitches. The scale is as follows:

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78 See Meyer-Baer, 73f.
79 There is some debate as to whether the final Chapter of *Harmonics*, Chapter 16, was written by Ptolemy, or if it was completed. For more on this debate see fn. 239 in Ptolemy, *Harmonics*, 165.
80 Ibid., 161f.
81 Ibid., 158ff.
82 Ibid., 165f.
By the Middle Ages, it was mostly accepted that the starry firmament, or fixed stars, maintained the highest pitch in the scale. The primary scale described above, as Meyer-Baer discusses, is found on the flyleaves of an eleventh century manuscript of Boethius’s *De Musica* in which the Greek names of the pitches are assigned to the planets above a silent (silentium) Earth. By the sixteenth century this scale, repeated by Ramos, Gaffurio, Glarean, Agrippa, Bruno, and several others, was the most commonly used system. During the sixteenth and seventeenth centuries the theories of Copernicus and Rheticus, and later the work of Kepler, Brahe, and Galileo, challenged the entire arrangement of the heavens, and therefore any conception of Music of the Spheres based on an unmoving and unsounding earth. It appears that these changing views did not hold great sway over Rudolf’s composers, though they did lead his astrologer, Kepler, to write a music theory treatise wherein he revealed the third law of planetary motion, but that discussion is best left until Chapter 5.

**Conclusion**

Composers in the late Renaissance, and especially in the Hermetic capital that was Rudolf’s Prague, had at their disposal a vast system with which to infuse their works

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83 Ibid., 80ff.
with mystical power. What is evident is that the mystical systems proposed by authors from antiquity through the Renaissance were at times varied and contradictory, but that by the sixteenth century most of these schemes had been codified and agreed upon by a majority of theorists and occultists. The emotions stirred by the modes, the pitches that each planet produced, the correspondence of mode to planet, the representation of astrological phenomena by musical intervals, and the effect of modes on bodily humors were all widely agreed upon by most authors who wrote on the topic. Almost all of these would soon be challenged, however, as the Scientific Revolution and the Enlightenment changed how we view the universe, the earth, the human body, and their relationship to music. For a brief period near the end of the sixteenth century and the opening years of the seventeenth, nonetheless, a hermetic understanding of the universe still reigned supreme in Prague, especially under the patronage of Emperor Rudolf. In the next two chapters I explore how this mode of thinking influenced his many composers.
Chapter 3

Music in Prague before 1600: Rumblings of Hermetic Influence

We now turn our attention to music that was composed in Rudolf’s Prague prior to the year 1600. Much has been written about the Emperor’s patronage of the arts and occult practices, but Rudolf also maintained for most of his life one of the largest musical institutions in Europe.¹ Carmelo Comberiati, in his dissertation and in his subsequent book, has determined the size of the court and provided the names of all the composers, scribes, vocalists, and instrumentalists that have been found in the archival records.² Rudolf was crowned emperor in November, 1576, and the personnel and structure of his first court chapel was adapted almost entirely from the court of his father, Maximilian II.³ Comberiati lists the personnel from the chapel court of 1576 as well as subsequent years where the archival information is available, and therefore it is not necessary to review

² Carmelo Comberiati, “Polyphonic Settings of the Mass Ordinary at the Court of Rudolf II (1576-1612),” (Ph.D. Dissertation, University of Michigan, 1983); Late Renaissance Music at the Habsburg Court: Polyphonic Settings of the Mass Ordinary at the Court of Rudolf II (1576-1612) (New York: Gordon and Breach Science, 1987).
³ Walter Pass provides reproductions of the court registries for Maximilian’s last chapel and Rudolf’s first in Musik und Musiker am Hof Maximilian II (Tutzing: Schneider, 1980), 383-92.
them all here, though a summary of the principal figures is useful. The most important of Rudolf’s composers in terms of influence and output was Philippe de Monte, who began serving under Maximilian in 1568 and became the director of the musical organization for Rudolf in 1576, a post he held until his death in 1603. The position of assistant chapel master, who served directly under Monte, was occupied by several composers during Rudolf’s reign, among them Jacobus Regnart, Alessandro Orologio, and Camillo Zanotti.

Following Monte’s death in 1603 the duties of Chapel Master were likely taken over by Orologio, though there are no records that his promotion was ever officially announced. After 1603, as discussed in Chapter 1, Rudolf’s state of depression and inactivity only deepened; considering the Emperor’s lethargy and his growing fear of entering a church because of the prophecy that he would die at the hands of a monk, as well as the increase in pay that likely would have been involved, it is not surprising that he never made an official enactment to declare Orologio Chapel Master. Someone still had to assume the duties of Chapel Master and the payment records, reviewed by Comberiati, indicate Orologio as the most likely candidate. The following table, borrowed from Comberiati’s study, provides the Chapel Masters, Assistant Chapel Masters, and “Praeceptorae in musica” from Rudolf’s reign when they are known. Several of these musicians also published books of compositions and are discussed below, including Zanotti, Regnart, Orologio, Schöndorff, and Sayve.

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5 For more on Rudolf and Religion, see Evans, 84-115.
6 Ibid., 23f.
7 Music instructors, likely of the choirboys and chapel singers. Pass, *Musik und Musiker*, 382-92 also outlines the hierarchy of the chapel, including the trumpeters, not shown here.
Table 3.1 Chapel Masters, Assistant Chapel Masters, and Praeceptorae under Rudolf II

Chapel Masters
Philippe de Monte 1576 – July 4, 1603
Alessandro Orologio Aug. 1, 1603-1612

Assistant Chapel Masters
Alard du Gaucquier 1576 – Sep. 23, 1578
Jacobus Regnart Oct. 1579 – April 9, 1582
Johann de Castro Sep. 1, 1582 – May 31, 1584
Camillo Zanotti Aug. 31, 1586 – Feb. 1591
Matthias de Sayve May 1, 1591 – Jan. 1, 1598?
Jacobus Regnart Jan. 1, 1598 – Oct. 1599
Matthias de Sayve after Oct. 16, 1599 – 1603?
Alessandro Orologio April 1, 1603 – Aug. 1, 1603
Ferdinandus Iaslo after Aug. 1603?

Praeceptorae in muscia
Jacobus Regnart 1576 – April 9, 1582
Johann de Castro Sep. 1, 1582 – May 31, 1584
Johann Baptista Pinello May 1, 1584 – June 15, 1587
Camillo Zanotti Aug. 31, 1586 – Feb. 4, 1591
Matthias de Sayve May 1, 1591 – Nov. 30, 1597
Philippe Schöndorff May 8, 1594 – Aug. 19, 1594
(Regensburg Parliament)
Bonaventure la Febure Aug. 1, 1603 – 1612.

While one of the main goals of this dissertation is to examine the possible influence of magical thinking on the musical style of Rudolf’s composers, magic does not play an overly large role in this chapter, though some instances are explored in which the influence of hermeticism appears to have been present. An exploration of music that does not demonstrate a clear hermetic influence, however, is necessary primarily because there have been no large-scale studies done of secular and sacred music at Rudolf’s court, and before searching for clues of hermetic influence it is necessary to establish who the main
composers were, in what genres they composed, and the general musical language of the court. Though significant work has been done on specific composers or genres under Rudolf, there has not been a survey of musical life at the court, or an appraisal of stylistic trends, despite the fact that during its brief peak Rudolf’s court almost certainly housed the largest musical institution in all of Europe, in what was perhaps also the most powerful city in Central Europe, if not the continent.  

Indeed Rudolf’s most celebrated and prolific composer, Philippe de Monte, has seen far less scholarship than some of his contemporaries, such as Orlando di Lasso or Tomas Luis de Victoria, despite the fact that during their lifetimes Monte was arguably equally celebrated. Perhaps the lack of scholarship on Monte’s work is because of the sheer quantity of music: one could say that he wrote too much music for his own historical good. Two collections of complete works have been attempted and both have fallen well short of editing the master’s oeuvre. This shortcoming is understandable, as between 1567 and 1601 Monte published at least one collection nearly every year, sometimes more, and his total output numbers somewhere around 1,500 pieces; I can admit here that the present survey of musical life in Prague provides only a brief commentary on Monte’s compositions and the primary sources related to his life, leaving much of his work unexamined as there is simply far too much music to analyze in depth.

Beyond my own archival efforts, this chapter draws information from Comberiati’s aforementioned studies, as well as his examination of Carolus Luython’s

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8 Robert Lindell argues in “Music and Patronage at the Court of Rudolf” that music played a far larger role at the court than previously recognized, matching those of Charles V, Ferdinand I, and Maximilian II.
mass settings.\(^9\) Walter Pass’s examination of music under Maximilian II is also important, as Rudolf’s court featured a great deal of carry-over from his father’s musical institution.\(^10\) Robert Lindell wrote several important studies on music at the Prague court including \textit{Studien zu den Sechs- und Siebenstimmigen Madrigalen von Filippo di Monte}, “Music and the Imperial Court after Charles V,” and “Music and Patronage at the Court of Rudolf II.”\(^11\) Klaus Wolfgang Niemöller has also published several significant works on Rudolf’s musical patronage, including “Musikinstrumente in der Prager Kunstkammer Kaiser Rudolfs. II. Um 1600,” and “Die musikalische Festschrift für den Direktor der Prager Hofkapelle Kaiser Rudolfs II. 1602.”\(^12\) Finally, Erika Honisch’s recent dissertation on sacred music and the various soundscapes of Prague is an important resource.\(^13\)

The goal of this chapter is to provide an introduction to the composers and music of Rudolf’s court before 1600. The years following 1600, in which I argue the influence of magical thinking was more prevalent, will be featured in the next chapter. Many composers from outside Prague dedicated works to the Emperor, several of whom were employed in nearby Habsburg cities, but for the purpose of this study I concentrate solely

\(^10\) Walter Pass, \textit{Musik und Musiker am Hof Maximilians II}.
on those composers for whom it is possible to determine residence in Prague at some point during their careers. During the first twenty-five years of Rudolf’s reign, composers in Prague published numerous volumes of sacred and secular compositions, as well as a handful of instrumental compositions. In sum nearly sixty extant compilations were published before 1600, totaling well over 1,000 individual pieces of music. The majority of these are unavailable in modern publication. The largest collection is now held in the Musiksammlung of the Österreichische Nationalbibliothek. These works stem from eleven composers as follows, with dates listed that they served under Rudolf, in the order when they began their service:14

- Philippe de Monte 1576-1603
- Jacobus Regnart 1576?-1582, 1596-99
- Carolus Luython 1576-1612
- Alessandro Orologio 1580-1612
- Jacobus de Kerle 1583-1591
- Jacobus Gallus/Handl 1585-1591
- Camillo Zanotti 1586-1591
- Philippe Schöndorff c1587-1612
- Mathias de Sayve 1590-1612
- Giovanni Battista Galeno 1595-1612
- Liberale Zanchi 1596-1612

The following chart contains what I have been able to gather regarding compositions by these composers from this time period, focusing on publications that include only the works of the composer listed. It is possible that some compositions have been missed, and indeed there are numerous individual works existing only in manuscript that are not listed here, omitted to reduce the number of compositions to a more manageable number, but this remains the most complete list of music from the circle of

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14 There are also several lesser-known composers who worked at other courts but dedicated works to Rudolf. For a list, see Comberiati, 99-102.
Rudolf’s court that has yet been offered. I have included works written before their service under Rudolf, as well as later works if they left before 1600. The dates listed are for the first publications only.

Table 3.2 Chronological list of works by composers in Prague pre-1600

<table>
<thead>
<tr>
<th>Composition</th>
<th>Year</th>
<th>Parts</th>
<th>Publication City</th>
<th>Modern Publication</th>
<th>Current Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippe de Monte Il primo libro de madrigali</td>
<td>1554</td>
<td>5</td>
<td>Rome</td>
<td>L ser. D, i</td>
<td>E-Zac, I-Rsc(^{15})</td>
</tr>
<tr>
<td></td>
<td>1562</td>
<td>4</td>
<td>Venice</td>
<td></td>
<td>I-VEaf</td>
</tr>
<tr>
<td>Il secondo libro de madrigali</td>
<td>1569</td>
<td>5</td>
<td>Venice</td>
<td>L ser. D, ii</td>
<td>I-Bc</td>
</tr>
<tr>
<td>Il primo libro de’ madrigali</td>
<td>1569</td>
<td>6</td>
<td>Venice</td>
<td>Part transcribed by Lindell</td>
<td>I-Vnm</td>
</tr>
<tr>
<td>Il secondo libro delli madrigali</td>
<td>1569</td>
<td>6</td>
<td>Venice</td>
<td>Part transcribed by Lindell</td>
<td>A-Wn, D-Mbs, EIRE-Dm, GB-Lbm, I-Bc, Mc, Oc, Rdp, Rsc</td>
</tr>
<tr>
<td></td>
<td>1569</td>
<td>4</td>
<td>Venice</td>
<td></td>
<td>GB-Lbm, I-Bc</td>
</tr>
<tr>
<td>Il terzo libro delli madrigali</td>
<td>1570</td>
<td>5</td>
<td>Venice</td>
<td>L ser. D, iii</td>
<td>GB-DM, Ckc, Lbm, I-Bc,, Rdp, Rsc, V-Eaf</td>
</tr>
<tr>
<td></td>
<td>1571</td>
<td>5</td>
<td>Venice</td>
<td></td>
<td>A-Wn, GB-Ckc, Lbm, I-PS, B</td>
</tr>
<tr>
<td>Sacrarum cantionum...liber primus</td>
<td>1572</td>
<td>5</td>
<td>Venice</td>
<td>L ser A, i</td>
<td>A-Wn, GB-Lbm, I-CARc</td>
</tr>
<tr>
<td>Sacrarum cantionum ... liber secundus</td>
<td>1573</td>
<td>5</td>
<td>Venice</td>
<td>L ser A., ii</td>
<td>D-Mbs, F-Pn, I-Cod</td>
</tr>
</tbody>
</table>

\(^{15}\) Several of Monte’s Madrigal books were reprinted in the years immediately following the original publication. This chart lists only the location of the first printing. For a more complete list see Réperatoire International des Sources Musicales 6 (1976), 1-6.
<table>
<thead>
<tr>
<th>Title</th>
<th>Year</th>
<th>Edition</th>
<th>Location</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 3.2 Continued</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sacrarium cantionum...liber tertius</td>
<td>1574</td>
<td>5</td>
<td>Venice</td>
<td>L ser A. iii</td>
</tr>
<tr>
<td>Madrigali... a cinque voci, libro quinto</td>
<td>1574</td>
<td>5</td>
<td>Venice</td>
<td></td>
</tr>
<tr>
<td>Il sesto libro deli madrigali</td>
<td>1575</td>
<td>5</td>
<td>Venice</td>
<td>A-Wn, F-Pc, I-Fn, VEcap</td>
</tr>
<tr>
<td>Libro quarto de motetti</td>
<td>1575</td>
<td>5</td>
<td>Venice</td>
<td>B xxii, D-Mbs, F-Pn</td>
</tr>
<tr>
<td>Sonetz de Pierre de Ronsard...</td>
<td>1575</td>
<td>5-7</td>
<td>Leuven, Antwerp</td>
<td>D-FLs, Kl, W, F-Pn</td>
</tr>
<tr>
<td>Il terzo libro de madrigali</td>
<td>1576</td>
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**Jacques Regnart**

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| **Sacrae aliquot cantiones, quas moteta vulgus appellat** | 1575 | 5,6 | Munich | Opera omnia, ed. W. Pass, D-B, Mbs, W (5/6), GB-Lbl, PL-Wn (A), WRu |
| **Der ander Theyl kurtzweiliger teutscher Lieder** | 1577 | 3 | Nurenberg | *Deutsche dreistimmige Lieder*, ed. R. Eitner, PÄMw, xix |
| **Aliquot cantiones, vulgo motecta appellata, ex veteri atque novo testamento collectae** | 1577 | 4 | Nurenberg | Opera omnia, ed. W. Pass, for full details see Pass, 1969 | CS-Pnm (S), D-B (A), Bhm (B), Mbs, Z (A,T,B) E-Mc, PL-LEtpn (S,A) |
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<td>1584</td>
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<td>Edited in Osthoff, 1929, 153–61</td>
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<td>Mariale, hoc est: Opusculum sacrarum cantionum pro omnibus Beatissimae Virginis Mariae fesivitatibus</td>
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<td>Missae sacrae ad imitationem selectissimarum cantionum suavissima harmonia</td>
<td>1602</td>
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**Jacobus de Kerle**

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<td>1590</td>
<td>4</td>
<td>Prague</td>
<td>MAMS XXVI</td>
<td>D-Z (S,A), PL-Tu (T,B), Wu (S,A)</td>
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**Table 3.2 Continued**
<table>
<thead>
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<tr>
<td><strong>Quatuor vocum liber III, harmoniarum moralium</strong></td>
</tr>
<tr>
<td>1590</td>
</tr>
<tr>
<td><strong>Moralia Iacobi Handl Carnioli, musici praestantissimi, quinque, sex et octo vocibus concinnata, atque tam seriis quam festivis cantibus voluptati humanae accommodata</strong></td>
</tr>
<tr>
<td>1596</td>
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<tr>
<td><strong>Sacrae cantiones de praecipuis festis per totum annum...</strong></td>
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<td>1597</td>
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**Camillo Zanotti**

| **Il primo libro de madrigali** |
| 1587 | 5 | Venice | 2 ed in DTÖ 77 | PL-GD |
| **Missarum cum quinque vocibus liber primus** |
| 1588 | 5 | Venice | A-Wn (B,5), D-KNu (B,5), I-FZac (no S), PL-GD (A) |
| **Il primo libro delli madrigali** |
| 1589 | 6 | Venice | 1 ed in DTÖ 77 | D-BNu (S,B), Rp (kpl), I-MOe, PL-GD |
| **Il terzo libro de madrigali con alcune villotte a cinque voci** |
| 1589 | 5 | Venice | Portion Transcribed Below | A-Wn (T,B,5) |
| **Madrigalia tam italica quam latina nova prorsus** |
| 1590 | 5,6,12 | Nürnberg | 1 in Madrigali pastorali intitolati Il bon bacio, 1993 Portion Transcribed Below | A-Wn (kpl), DI (no 6), GB-Lbl (T,5), PL-Wu (no A), WRu (A) |

*Continued*
**Table 3.2 Continued**

*Philippe Schöndorff*
(no published works)

<table>
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<th>Manuscript Information</th>
<th>Location</th>
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<tr>
<td>Missa super Usquequuo Domine</td>
<td>mid-1590s</td>
<td>6</td>
<td>Codex Kuttenbergensis is Portion Transcribed Below</td>
<td>CZ-Pnm</td>
</tr>
<tr>
<td>Missa super La dolce Vista</td>
<td>mid-1590s</td>
<td>6</td>
<td>Codex Kuttenbergensis is</td>
<td>CZ-Pnm</td>
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*Mathias de Sayve*

<table>
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<th>Quantity</th>
<th>City</th>
<th>Manuscript Information</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Liber primus motetorum</td>
<td>1595</td>
<td>5</td>
<td>Prague</td>
<td>D-brd KNu (B,5)</td>
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*Giovanni Battista Galeno*

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<th>City</th>
<th>Manuscript Information</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Il primo libro de madrigali a cinque voci</td>
<td>1594</td>
<td>5</td>
<td>Antwerp</td>
<td>2 in Niederländische und italienische Musiker der Grazer Hofkapelle Karls II, 1564-1590</td>
<td>A (Wn) (no T), D-Hs (kpl), GB-Ob</td>
</tr>
<tr>
<td>Il primo libro de madrigali a sette voci</td>
<td>1598</td>
<td>7</td>
<td>Antwerp</td>
<td>2 ed in DTÖ, xc, 1 in RRMR</td>
<td>B-Br (kpl), D-LEm (no 6, 7)</td>
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*Liberale Zanchi*

<table>
<thead>
<tr>
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<th>Year</th>
<th>Quantity</th>
<th>City</th>
<th>Manuscript Information</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Il primo libro de madrigali a cinque voci</td>
<td>1595</td>
<td>5</td>
<td>Venice</td>
<td></td>
<td>I-Pca</td>
</tr>
<tr>
<td>Sacrae cantiones senis, septenis, octonis, &amp; duodenis vocibus concinendae</td>
<td>1598</td>
<td>6-8, 12</td>
<td>Venice</td>
<td>Portion Transcribed Below</td>
<td>D-F (S, 5, 6, 8)</td>
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</table>
The most important figure from the above chart is certainly Philippe de Monte, and his influence will be seen in the work of nearly every composer surveyed. As indicated in Table 3.2, he composed far more works than any other composer. Besides Jacobus Gallus/Handl, the other composers were far less prolific in Prague, though several of Jacobus de Kerle’s and Jacobus Regnart’s compositions were written before they began to work for Rudolf. Carolus Luython’s most prolific time came after 1600, as will be seen in the next chapter. It is also highly likely that compositions by the lesser-known composers have been lost over the years. Immediately following Rudolf’s abdication Matthias moved the throne back to Vienna, taking with him very few of the court musicians, and presumably not all of the music books. Comberiati describes at least one mass by Luython from this time period that has been lost, and doubtless there were several others as well.16

What follows are brief surveys of each composer’s biography and sample analyses of music written at Rudolf’s court. I have chosen to concentrate primarily on works that have not been published in modern notation, or which have received no scholarly study. For that reason, some better-known works are not covered here, but I believe it is more valuable to bring attention to otherwise unknown compositions. Several pieces are discussed that appear here for the first time in a modern transcription.

Philippe de Monte, 1521-1603, under Rudolf; 1576-1603

More has been written about Philippe de Monte than any other composer who will be covered in this study. Indeed Monte has been the subject of several dissertations in

16 Comberiati, Late Renaissance Music at the Habsburg Court, 69.
English, German, and Italian and two attempts have been made to published complete works in modern notation.\textsuperscript{17} I will not, for that reason, spend as long discussing his music as he deserves, instead leaving space to concentrate on composers about whom very little has been written and whose works remain largely unpublished. As he was the most influential composer in Prague, however, it is still necessary to note the major features of Monte’s style, as well as events of his life that help to shed light on the musical climate in Prague, and the relationship between the musical and mystical communities.

When discussing Monte’s music it is essential to pause and reflect on his prolific output, which curiously began rather late in his life. Beginning in 1569, when we was forty-eight years old, he published at least one volume of compositions in nearly every year until 1601, when his production slowed in the two years before his death. Indeed, only in 1577 did he not release some sort of publication. In several years, however, he published more than one work: in 1580 and 1581, for example, he published three complete books of madrigals each year. He penned over 1,100 secular madrigals, 40 masses, and around 250 other sacred works during his life. Such a vast amount of publications, unique in the sixteenth century, is surely the cause for the two aforementioned attempts at complete works remaining unfinished, and perhaps paradoxically the cause that his music has not received as much scholarship as that of

Lasso or Palestrina. Thankfully the many dissertations mentioned above have made his music far more accessible and approachable.

Monte’s fame also resulted in the production of several documents that allow a glimpse into the musical climate in Prague, in the forms of contemporary poetry, letters, and dedications. Neo-Latin poet Elizabeth Jane Weston published a poem in 1602 dedicated to Monte that perhaps best epitomizes his position in Prague.\(^{18}\)

You too, Philippe de Monte by name, our Muses wish
to honor as is your right.
I am bound by your favors, I owe you much,
as my grateful Mother likewise joins me in confessing.
I am unable to repay you, but what gratitude it is right for me
to express I shall sing gratefully in my maidenly song.
And in praise of God may I celebrate with my lyre your gifts
of rare thoughtfulness, as long as I am in this world.
If I may ascribe to myself sweet vocal melodies,
gracious harmonies, you will be my Phoebus.
As Amphion you mollify with song the deity’s wrath
as Orpheus you move stones, even Acheron.
The whole of Emperor Rudolf’s court confesses this to me,
nor does mighty Rome deny the same.
France celebrates you, and the Italian soil praises you,
and the Spaniard sings of the wealth of your wit.
Hence music is God’s gift; cease to loath it,
Momus, for the pious life cannot be without it.
Music eagerly gives power to the spirit,
and gently lightens care-weary spirits.
It raises and strengthens the sorrowful, and gives solace,
and distracts the long tedium of a long life.
Indeed, even in a time of tranquil peace,
music loudly extols holy powers to the highest domes.
Music crushed the wrath and savage fury of Bellona,
and will be pleasing to her enemy.
Music becomes a sweet medicine to heavy labor;
so how shall I deny it as a gift of the gods?

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\(^{18}\)Translation from *Elizabeth Jane Weston: Collected Writings*, 53; excerpt from poem “AD Nobiliss: & Excellensiss: Dn. PHILIPPUM MONTE: Sac: Caes. Mitis. Capellae Magistrum, Musicum hoc nostro seculo principem.” This poem also appears in Georges van Doorslaer, *La vie et les oeuvres de Philippe de Monte* (Brussels: Lamertin et Hayez, 1921), 271f.
It rules pious feelings, and turns aside violent hearts,
begets virtue and sails the deep.
In peace it restores its citizens: with unwarlike hand it keeps
from their necks any hostile force or threat.
God admits it into the holy places of His holy temple,
    that He may be worshipped with fit honor in Psalms
What is left to say? Music keeps us sound,
dispels sicknesses, confirms friendships.
It leads our senses to an obedient spirit, and draws
    that same spirit to the heavens in a resounding voice.
Yet I do not foolishly consider that to be harmony
which, alas, becomes pernicious in it allurements;
but what Phoebus has blessed you with, praiseworthy Philippe,
is serious, or comes only by the gift of the Gods.
It snatches our emotions from the ground and exalts them
to Olympus, and can call our spirits away from vice.
So rejoice in these gifts, and fare you well, great Philippe,
    that you may be sung through the whole world.

Weston repeats many of the expected tropes of music’s power and importance, as
well as Monte’s compositional prowess. Orpheus moves stones with music, God admits it
into his presence, and it serves as a sweet medicine for those wearied by life and battle.
Monte’s gift is subsequently declared around Europe, and in particular at the court of
Rudolf II. The most curious lines, however, occur near the beginning of the poem, when
Weston declares, “I am bound by your favors, I owe you much, as my grateful Mother
likewise joins me in confessing. I am unable to repay you.” What cause could she and her
mother have had to make it such a point to thank him? Appearing at the beginning of the
poem it does not appear that she was simply thanking him for his music, but rather that
giving thanks was the cause for the poem to have been written in the first place. Another
poem by Weston provides more clues, this one dedicated to Georg Barthold von Breitenberg, who we will encounter later in regards to the music of Carolus Luython.\footnote{Translation from \textit{Elizabeth Jane Weston: Collected Writings}, 49. Poem titled “Admodum Reverendo in Christo Dno GEORGIO BARTHOLDO à BREITENBERG, Metrop. Eccl. Pragen. praeposito, Fautoiri Suo colendo.”}

Inasmuch as you furnish a pious service and lighten our tears and poverty with generous offerings,
O sir, worshipful to God and most dear to the Muses,
my mother and I offer thanks in measures without measure.
I believe that through you God brings solace to the wretched,
that we might experience His aid in the midst of troubles.
Hence I shall tell openly of your deeds through the wide world;
songs will ever be welcome recompense for services.
A distinguished musician, Philippe with the family name of Monte, helps us with a like generosity.
Hence he claims first place as benefactor;
while Pisnitz, like a father, is another claimant.
You are a third Patron for us, reverend Sir,
since you are bringing aid to your wards as a helper.
O, would that Caesar might follow as fourth in order;
he will be first if returns the lost property to me.
My mother prays for this alone, deprived of her own goods;
but oh, that the Curia might care for this, as is just!
Ah, that at last compassion might overtake Caesar’s mind,
that he might take up my case and look into it.
Then I would consider myself blessed, along with my Muses and my Mother, and wholeheartedly rejoice.
Live, and prosper in God and the Muses, most gracious Patron,
and help us with your pious prayers, and with your favor.

Again Weston and her mother offer thanks for an undisclosed service. Monte reappears and is mentioned as the current “first benefactor” of her family. The benefactor she most ardently seeks after, however, is Caesar, which is almost certainly a reference to Rudolf himself. Only he can “return the lost property,” and cause her to “wholeheartedly rejoice.”
The cause for this consternation was likely the fate of Weston’s stepfather, the alchemist and spirit-medium Edward Kelley. As discussed in Chapter 1, Kelley was imprisoned by Rudolf for failing to transmute gold as he had promised. He was eventually released, only to be charged and held once more, again for failing to divulge his secrets of alchemy, or perhaps on murder charges as in the legends. The legends also say that he later died falling from a tower while attempting an escape. Weston had penned a series of letters trying to find help for her stepfather, and it would appear from these poems that Monte responded, though there are no records of what his intervention might have been. His intercession on Weston’s behalf is somewhat curious, as we will see below that from his dedications, or lack thereof, his relationship with Rudolf had perhaps somewhat spoiled by the late 1590s. Regardless, it appears that he was a friend of Kelley, or a supporter of his sooth-saying and alchemy, or quite possibly both. At the very least, he had a strong enough relationship with Kelley for Weston to have asked for his help, to which he responded in some kind.

While this is not unambiguous proof of Monte’s involvement with the mystical community in Prague, it does suggest that a more complex bond existed between the musical and magical spheres than has previously been recognized. Another document further reveals Monte’s involvement with the intellectual elite. In 1592 traveling composer Tiburzio Massaino dedicated his *Liber primus cantionum ecclesiasticarum* to

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20 Honisch also discusses this poem, see 118-21, but does not tie it to the situation with Kelley, instead using it to examine the gift-giving culture in Prague.

Monte. Massaino thanked Monte for help in a time of need, and described Monte’s house near the Prague castle as a meeting place for nobles and musicians.\textsuperscript{22}

These documents present a very different picture of Monte’s relationship with the elite class in Prague than was given in his many dedications of the 1580s and 1590s. Brian Mann provides a thorough discussion and translations of these dedications in his dissertation, so it is not necessary to reproduce them all here, but it is useful to review certain highlights.\textsuperscript{23} Monte’s first dedication to Rudolf was in 1578, in Il settimo libro delli madrigal a cinque voci, which was also was the first dedication the Emperor received after being crowned. It is a standard dedication, and similar to Monte’s previous dedication to Maximilian II, in that he draws heavily on elements of antiquity.\textsuperscript{24} Rudolf is compared to Caesar Augustus by Monte, a comparison that appeared often in poetry, art, and music of the time, as will be discussed in Chapter 4. Monte’s next dedication, from L’ottavo libro delli madrigal a cinque voci (1580), is far more personal and reveals the struggle he was having pleasing his patron:

I have done all I could to find a way to give more pleasure to those who should and can form a judgment on it, but it is perhaps true that the more I try the less I succeed. Nevertheless, I do what I can, particularly to give pleasure to those for whom it is necessary in order to restore their spirits, wearied by the necessities of political life, and if I deserve not praise for what I have accomplished, I at least deserve no blame for my intention.\textsuperscript{25}

\begin{footnotes}
\item[22] See Lindell, “Music and Patronage,” 266.
\item[24] It is also worth noting that the idea of Monte’s compositional “crisis,” is still a cause for debate. See Thorsten Hindrich’s recent discussion of the issue in Philipp de Monte (1521-1603): Komponist, Kapellmeister, Korrespondent (Göttingen: Hainholz, 2002), 117-20.
\item[25] Lindell, Studien zu den Sechs- und Siebenstimmigen Magrigalen von Filippo di Monte, 409. Mann offers a transcription of the dedication on 529.
\item[25] Mann, 306.
\end{footnotes}
Such a revelation of feelings of frustration was rare in dedicatory letters of the time, and Einstein has called it a “painful and historically remarkable self-confession.”\textsuperscript{26} The discussion of how his music is unable to please those who spend their days at court makes it appear that Monte had lost some favor with Rudolf or his immediate council.

As Mann discusses, in Monte’s next few dedications he turned to other figures in the Imperial Court seeking favor, including Rudolf’s brother Ernest and Wolfgang Rumpf, an important minister in Prague.\textsuperscript{27} Both of these men were apparently more fond of music and more appreciative of Monte’s gifts. In 1581 Monte dedicated another volume to Rudolf, \textit{Il decimo libro delli madrigal a cinque voci}, in which he provided an unusual discussion of how music is valued:

Speaking now of music, which is my profession, I can say that since the harmony which music renders can only be appreciated because of that conformity which it has with those who listen to it, everyone who would give a judgment in these matters can say with more reason, ‘this music pleases me,’ than say, ‘it is good because it pleases me.’ This is because one is accustomed to making judgments concerning the quality of music, and of the variety of proportions with which composers are accustomed to arrange the intervals of their music, and [even] of the considerable trouble that it might have taken to compose – all things hardly demonstrable at all.

It appears, then, that this diversity of opinion clearly demonstrates the imperfection of both the art and its practitioners, since it can still be seen and shown that men of great judgment customarily take delight in that manner of music which does not normally please many of those who compose it. And since there is so much room for error in all this, and even more if one sought to force men’s nature into making something which is contrary to their own nature seem good to them; I have tried, and I am still trying, by a change in style, to give some pleasure to those who have been little pleased with my other compositions.\textsuperscript{28}

\textsuperscript{27} Mann, 307ff.
\textsuperscript{28} Translation from Mann, 312.
It is clear from this excerpt that Monte believed he had been unable to please Rudolf and others at the court. As discussed in Chapter 1, Rudolf’s mental and physical condition had been steadily deteriorating. His personal bout with melancholy reached a fervor in 1580 and 1581, when the Emperor rarely left his private quarters even to meet with foreign dignities, let alone to attend concerts. Mann quotes a letter written by George Gilpin, an English traveler, who writes that Rudolf had not given an audience for the ten months.\(^29\) In such a climate it is hard to imagine that Monte’s music would have received the attention it deserved, though it appears from the dedication that those who did hear his recent madrigals did not care for them. Monte makes it clear that he was attempting to change his style, even composing pieces which do not “normally please many of those who compose it.” Curiously, as Mann contends, it is not until his works from five years later, in 1586, that there is a perceptible difference in compositional style.\(^30\)

Several interpretations of these dedications have been offered. Einstein argues that they reveal a sense of isolation that Monte felt while working in Vienna and Prague, far away from his contemporaries and the developing musical styles of Italy.\(^31\) Mann argues that we must consider Monte’s immediate environment and his struggles in dealing with a reclusive Emperor who was apparently far more interested in magicians, alchemists, and painters than in his world-class composer. Robert Lindell views the dedications as evidence of Monte’s incessant drive to improve his compositional abilities,

\(^{29}\) Mann, 313.
\(^{30}\) Ibid., 310.
\(^{31}\) Einstein, 509.
while highlighting the composer’s increasing connection with the Jesuits.\(^{32}\) For our purposes it is important to note that while Monte had great fame across Europe, and was apparently involved with the intellectual and mystical circles in Prague, he was not as highly regarded by Rudolf and his immediate council. Indeed, after 1586 Monte did not dedicate any more publications to Rudolf, instead turning to dignitaries and clergymen from around the Empire. Monte’s fellow composers in Prague, including Luython, Galeno, Orologio, and Zanotti, however, did continue to dedicate works to their Emperor until near the end of his life.

Previous scholars of Monte’s music have identified two distinct compositional styles during his tenure in Prague. The dividing line, as Mann argues, was not precisely tied to the pained dedications from 1580 and 1581, but appeared fully in 1586. Mann termed the earlier style “serious,” calling it characteristic of music composed in the 1560s and 1570s. Monte’s secular work from this time relies heavily on the poetry of Petrarch; no composer set more of Petrarch’s verse to music than Monte. Most of the poems selected followed strict forms (sonnet, canzone, etc).\(^{33}\) The modal and harmonic writing is complex and varied when compared to his later output, and demonstrates a thorough knowledge of polyphonic technique.

Both Lindell and Mann observe a stylistic change in Monte’s writing beginning around 1586 and lasting until the end of his life, which can be termed a “lighter” style.\(^{34}\) A few of the developments are immediately noticeable: in secular compositions Monte turned away from Petrarch almost entirely, instead looking to Guarini, Tasso, and

\(^{33}\) Mann, 75.
\(^{34}\) See in particular Mann, 166-95, and Lindell, 70-84.
unidentified authors; his mensuration changed from primarily cut time to nearly all pieces set in common time; and he displayed an increasing preference for writing for more voices. Other stylistic developments agreed upon by Lindell and Mann in Monte’s later music include a preference for clear harmonic material, more prevalent homophonic writing, polyphonic complexity replaced with intricate melodies in one usually high voice, a general move of the “melody” to the upper voices, and an increased effort musically to depict or otherwise convey the meanings of the text. None of these developments were new when compared to musical trends in Europe and especially Italy: as Mann writes, “Monte was, on the whole, a follower rather than a trend-setter, in literary as well as musical matters.”35 What is significant for the present study, however, is that Monte is most responsible for bringing these techniques to Prague, where they remained the dominant style until Rudolf’s abdication in 1612, as will be seen in the remainder of this chapter and the next. Whether Monte is solely responsible for this stylistic preference of Prague’s composers is unclear, but he surely held a great deal of sway on musical matters in the city, due to his fame and his position of Chapel Master.

Monte’s vast sacred output raises the issue of whether he was influenced by the mystical community in Prague. Elders cites the many pieces by Monte for seven voices as clear examples of numerological symbolism. Monte’s seven-part motet cycle for seven voices, Virgo vetusits edita, for example, can be heard as intentional mystical devotion to the Virgin.36 Monte edited down the original eight stanzas to seven, to highlight further

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35 Mann, 74.
the number which held a symbolic link to Mary. Einstein and later Mann are hesitant to place too much emphasis on a symbolic meaning of works written for seven voices, especially Monte’s later secular madrigals for seven voices, arguing that the court favored larger choral groups, as evidenced by the prevalence of polychoral works across the Empire. It is apparent from the examples Elders reviews, however, that in some pieces Monte incorporated numerological symbolism to enhance the meaning of a work.

I argue that there are also some possibilities of the hermetic theories discussed in the previous Chapter appearing in Monte’s music. Scattered throughout his many dedications are references to celestial harmony, and the music of earth being merely a reflection of the grand music of God and the universe, as surveyed by Daniele Filippi. “Celeste armonia” is mentioned first in the dedication for Il secondo libro de madrigal a cinque voci (1567), while the effects of music on human listeners are discussed in Il settimo libro delli madrigal a cinque voci (1578). The dedication for Il quartodecimo libro delli madrigal a cinque voci (1590) describes music made on earth as a sample of heavenly music. The most blatant discussion of celestial music is found in Il secondo libro delli madrigali a settimo voci (1569), dedicated to Emperor Maximilian. An excerpt is as follows:

It was (holiest Prince) a common assumption of all the Pythagoreans that the sweetest concords that emerge from harmony were located not only in this inferior world, but in the celestial spheres as well. . . Others, moreover, like the Platonists, have stated that the human soul inherently possesses a certain harmony. . . Therefore they said that music gratifies the human spirit for two reasons: first, because by hearing the concord of human voices or the sound of

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37 See Elders, Symbolic Scores, 151-79.  
38 Mann, 415.  
instruments, the soul remembers the harmonious melody heard when it was coming down through the celestial spheres to put on human flesh; second, because the soul, consisting of harmony, recognizes itself when it hears sounds, and by recognizing itself as being well-proportioned, it feels joy. Thus the more the human spirit enjoys music, the more it proves to be capable to recall heavenly and divine things.40

Monte demonstrates a knowledge of hermetic/musical doctrine, as many of the themes related here we can recall from Chapter 2. The ability of the soul, which is itself constructed of musical harmonies, to recognize the harmonies of music and respond by bringing pleasure to the body is strikingly similar to Ficino’s arguments about the effectiveness of music, which would later be echoed by Johannes Kepler at Rudolf’s court, as will be explored in Chapter 5.41 Furthermore, the trope of human music being a reflection of divine music had been repeated since antiquity, as passed down in the writings of Ptolemy.42

I have not yet been able to find multiple instances where Monte clearly drew on hermetic theory as a compositional tool. More research will be required in this area as I chose in this study to concentrate on those composers whose music has not received as much attention as Monte. I have, however, identified a few possibilities in Monte’s music which are discussed here to encourage future scholarship. A curious example is an increased reliance on mixolydian mode in Monte’s work after 1580. Rudolf suffered one of his worst bouts of melancholy between 1580 and 1581, coinciding with Monte’s first frustrated dedications. It will be recalled from Chapter 2 that mixolydian mode, associated with Saturn, was prescribed to balance black bile, and therefore alleviate

40 Translation from Filippi, 233.
41 See Chapter 2, fn. 17.
42 See Chapter 2, fn. 59.
Prior to 1580 Monte’s madrigal publications were overall modally balanced, with no one mode being used drastically more than the others. In *Il settimo libro della madrigal a cinque voci* (1578), for example, all of the modes are used two or three times, except phrygian, which is used five times in twenty-three pieces, or 22% of the total. In *Il primo libro de madrigali spirituali a cinque voci* (1581), by contrast, six of the fifteen pieces, 40%, are in mixolydian mode. By 1586 the numbers are even higher. In *Il undecimo libro de moadrigali a cinque voci*, which Mann identified as marking the final change in Monte’s style, twelve of the twenty pieces, 60%, are in mixolydian mode. Even Mann, who certainly does not search for signs of mystical influence in Monte’s music, notes an increase in “mixolydian inflections” in *Il decimo libro della madrigali a cinque voci* (1581).

Whether Monte purposely increased his use of mixolydian mode in order to calm Rudolf’s melancholy is impossible to prove, but it does seem possible. His dedications from 1580 and 1581 make it clear that he was frustrated at being unable to please Rudolf. As the Emperor continued to shower attention on alchemists and painters, why not attempt to provide a cure as a composer? At the same time, as evidenced by the situation discussed above regarding Edward Kelley, it might not have been wise for Monte to announce any such intentions to the Emperor, potentially explaining why there was no overt mention in the dedications. Kelley claimed to be able to make gold and ended up imprisoned and eventually dead for failing to live up to his promises. The

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43 See also Tomlinson, *Music in Renaissance Magic*, 80f.
44 Mann, 394.
45 Evans notes that even during Rudolf’s bouts with melancholy, he continued to entertain audiences with alchemists and mystics. See page 89.
dedications written in 1586 reveal that Monte was calmer about his compositional ability and more at peace with his style, suggesting that perhaps his increased reliance on mixolydian mode, combined with the other stylistic developments discussed above, had earned him greater favor in the court.

Looking into specific pieces, there are more signs that Monte incorporated hermetic doctrine into his music. Filippi investigates Monte’s symbolism in his spiritual madrigals, paying particular attention to his ability to highlight mystical elements of the text. Monte was among the first composers to publish a set consisting entirely of spiritual madrigals, publishing four sets between 1583 and 1593. Filippi concentrates on Monte’s *Il primo libro de’ madrigal spirituali a cinque voci* (1581), and reviews the subject of each work. Several pieces deal with what he terms “Musical Mysticism,” which include topics such as earthly music’s relationship with heavenly music, interior hearing of the soul, God as a composer and tuner, and the spiritual senses. Monte highlights each of these themes through musical means, in particular the contrast between earthly music and heavenly music. Discussing the fourth work in the collection, which includes the line “dinanzi al suo fattor nel primo Cielo,” (before our maker in the heavens above), Filippi writes, “We contemplate the ‘primo cielo’ (an expression famously used by Dante), whose celestial harmony, solemn rhythm, and infallible intonation suggest to Monte imposing homorhythmic textures and mighty harmonic gestures, in comparatively long rhythmic values.” In another example, “Vorrei l’orecchia aver qui chiusa e sorda,”

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47 Filippi, 216ff.
she argues for similar treatment of heavenly music. It is worthwhile to quote his whole argument, including the text under discussion:

Vorrei l’orecchia aver qui chiusa e sorda
per udir coi pensier più Fermi e intenti
l’alte angeliache voci e i dolci accenti
che certa pace in vero amor concorda.

[I wish my mortal ear to be closed and deaf,
so that with a stronger and more concentrated mind
I can hear the high angelic voices and sweet tones
which certain peace harmonies with true love.]

The first two lines (the only ones dealing with ‘earthly matters) express the desire of giving up carnal hearing in favour of spiritual hearing: Monte closes this terrestrial preamble with a full-voice cadence on the major triad of A, the modal final. Such a strong cadence, with all the five voices simultaneously stopping on a *semibrevis*, is highly unusual so early in a madrigal. But its full effect and meaning manifests itself in the next measure, when the canto starts the new segment (‘l’alte angeliche voci’) solo on g”, and the quinto and alto immediately join with a C-major triad. The harmonic shift from A to C, the *commixtio modi*, the ethereal thinning of the vocal orchestration, the use of a semi-choir of high voices: all these features converge to represent the otherness of angelic singing. Basic sonic archetypes enter into play: the ‘heavenly’ connotation of high textures, the rendering of transparency and simplicity through diatonicity and homorhythmic textures, etc.  

As a supplement to Filippi’s analysis, I would argue that Monte also appears to incorporate hermetic theory into this passage, see Example 3.1, to further highlight the difference between earthly and heavenly music. As discussed in Chapter 2, it was highly uncommon in hermetic theory to associate a pitch with the earth, as all the other pitches moved around the earth. The closest sphere to the earth is the moon, represented by A. It is perhaps not a coincidence that the “earthly chord” in Example 3.1 sounds on an A, as

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48 Filippi, 228-230.
49 This would soon change, as Johannes Kepler assigned a scale and pitches to the earth in the early seventeenth century, as will be discussed in Chapter 5.
the moon is the nearest substitute for the earth. Indeed, in the two other places in *Il primo libro de’ madrigal spirituali a cinque voci* where the word “mondo” is used, Monte sets them both on A harmonies: in the fifth piece “Signor, ch n’esporrà gli alti tuo modi,” on the phrase “Esser del mondo,” (in the world); and in the fourteenth piece, “Hor she non più di te nè d’altro calmi,” on the phrase “fallace mondo,” (fallacious world).\(^{50}\) Monte uses an A triad for the word “mondo” in all three instances, suggesting that it was more than a coincidence. Furthermore, as Filippi points out, the harmony in “Vorrei l’orecchia aver qui chiusa e sorda” quickly moves to a C triad to represent the heavens. This could also have been motivated by hermetic theory, which says that Venus sounds a C. Venus is the closest planet to the earth and the largest in the night sky, and therefore the nearest planet “in the heavens.” What better chord to represent the “angeliche voci?”

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\(^{50}\) See Nuten, 65 and 205 for transcriptions.
Example 3.1 Philippe de Monte, excerpt from “Vorrei l’orecchia aver qui chiusa e sorda,” (1581) measures 5-13.

Continued
Example 3.1 Continued

It is not conclusive from these few examples that Monte intentionally incorporated hermetic theory into his music, but it does seem possible. The increased usage of mixolydian mode, potentially to address Rudolf’s melancholy, and the juxtaposition of chords representing earth and the heavens suggest a conscious decision to utilize the hermetic/musical associations. Further research is still required, however, of the vast number of compositions. From the dedications and poems discussed above, it appears he had personal relationships with the intellectual elite as well as the mystical communities in Prague. More important for the purposes of this dissertation is to recognize the influence he held over his fellow composers at Rudolf’s court. Even if he did not approve of hermetic music, his public relationship with Kelley and Weston would
seem to have sanctioned such relationships for his many understudies. His change in style also seems to have had great influence, as the elements of his later style appear frequently in the works of most of the composers discussed in this chapter and the next.

There is also a potentially greater influence Monte held in regards to hermetic music. Many of the examples I explore in this dissertation are specific correlations: a certain pitch for a specific planet or zodiac sign, a mode matched with a particular affect. Also worth considering is the larger picture of the hermetic ideal, that is, music which corresponds with the music of the heavens. It is significant to note how closely the musical material used by Monte to represent the heavens in Filippi’s analysis (the shift to high textures, homophonic writing, clear harmonic movements) includes the same qualities that Mann and Lindell describe as constituting Monte’s late style. Presumably his shift in style was motivated in part by changing musical trends and preferences across Europe, but the potential hermetic influence on his change, occurring in the capital city of such thinking, should not be discounted.

*Jacobus Regnart, 1540-45 – 1599, under Rudolf, 1576-1582, 1596-99*

Regnart was a Flemish composer who worked primarily in Austria and Bohemia and served under Rudolf during two separate stints. He was probably the second best-known composer in Prague behind Philippe de Monte, due mostly to his immensely popular secular German songs, though he also wrote numerous masses, motets, and

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Italian *canzone*. One of his first positions, beginning in 1557, was as a chorister in the Prague Hofkapelle of Archduke Maximilian, under the direction of Jacobus Vaet.\(^{52}\) He went on to work in Vienna when Maximilian became Emperor, temporarily leaving the position for a period of study in Italy from 1568 until 1570, though it is not known in which city. His first publication, *Il primo libro delle canzone italiane* (1574), reveals the influence of his time in Italy on his compositional style, which is also seen in his later book of Italian *canzone*, published in 1581.

Following his study in Italy, Regnart returned to Vienna where he was appointed a music teacher to the chapel choristers, replacing Lambert de Sayve, who had moved to Melk. After Maximilian’s death Rudolf appointed Regnart a member of the Hofkapelle, and by 1579 he had succeeded Alard Du Gaucquier as vice chapel-master. Regnart moved with the imperial court to Prague, where he briefly retained the position of vice-Kapellmeister. In 1582 he was persuaded by Archduke Ferdinand to move to Innsbruck where he succeeded Alexander Utendal as vice-Kapellmeister. Presumably Regnart accepted the move because it was unlikely that he would surpass Philippe de Monte in Prague, who, as discussed, was at the time one of the most prolific composers in Europe, while he was more likely to replace the elderly Bruneau in Innsbruck.\(^{53}\) In 1585 Regnart was indeed appointed Kapellmeister in Innsbruck, where he raised the quality of the musical organization considerably. The chapel had its largest numbers, boasting at least

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\(^{52}\) Pass reviews the documents pertaining to the beginning of Regnart’s service under the Habsburgs, 164.

\(^{53}\) Pass makes a similar assumption in *Thematischer Katalog Sämtlicher Werke Jacob Regnart (ca. 1540-1599)* (Vienna: Österreichische Akademie der Wissenschaften in Kommission bei Herman Böhlaus, 1969), 18.
forty-seven musicians, under Regnart’s supervision.\textsuperscript{54} During his time under Rudolf, Regnart had published little sacred music, just one collection in 1577, but in Innsbruck he published two books of motets, one in collaboration with three of his brothers. Following Ferdinand’s death Regnart returned to Prague in 1596, where he resumed his role as vice-Kapellmeister under Monte until his death three years later. He was not as prolific in these final years as earlier in his career. After his death, however, three volumes of his masses and one of motets were published by his widow.

Regnart’s most popular works were his \textit{Teutsche Lieder}, short strophic songs written in vernacular German for three and four voices. The three books for three voices were first published in 1574, 1577, and 1579. The first two were reprinted in 1580, and in 1584 a complete set of the three books was published by the original publisher, Gerlach of Nuremberg, who republished the set two more times up to 1593. At the same time, a rival publisher, Berg of Munich, published the sets five times between 1583 and 1611. All told, the volumes were published every few years for a span of thirty-five years, and well after Regnart’s death. Regnart also published Lieder for four voices in 1591, but they were not reprinted, suggesting they were less popular, and today only the treble part is extant.

The three-voice Lieder are mostly homophonic, with conservative rhythmic, harmonic, and melodic features, and limited ranges: ideally suited for amateur German musicians. Regnart wrote in the title-pages of each printed volume that his Lieder are “in

\textsuperscript{54} Comberiati, \textit{Late Renaissance Music at the Habsburg Court}, 81. See also Walter Senn, \textit{Musik und Theater am Hoff zu Innsbruck} (Innsbruck: Österreichische Verlagsanstalt, 1954), 362.
the style of napolitane or Italian villanelles."55 The Lieder do indeed display signs of the villanelle: dancelike rhythms, short groupings of homophony, and simple harmonies and melodies. Individual Lied have been published in modern notation, as shown in Table 3.2 above, but always with moveable clefs. I have therefore included my transcriptions of two Lieder, both from the first book, “On dich muss ich mich aller freuden massen,” and “Kein stund, kein tag nit ist.” The texts are simple, mostly dealing with love or broken hearts. The poetic structure further reveals the Italian influence: the poetry of the first book is almost entirely decasyllabic or hendecasyllabic triplets, with a rhyme scheme of AAA, ABB, or ABA, as shown in Example 3.2a. The others are hexasyllabic or heptasyllabic, divided into three couplets of AA, BB, CC, as shown in Example 3.2b.

Example 3.2a Jacobus Regnart, “On dich muss ich mich aller freuden massen”
Example 3.2a Continued

bist, da mag mich nichts erfreuen, bist, da mag mich
lieb, in ander weg bewerben, lieb, in ander weg bewerben,
mit, wird kennen gar versessen, mit, wird kennen gar versessen,
noch, und forchte mir mit nichsten, und forchte

C

T

B

nichts erfreuen, Kompt alles her, kompt
weg bewerben, So musst ich doch, so
gar versessen, So hast hast mir, Gott
mir mit nichsten, Gott wird es selbs, Gott

C

T

B

nichts erfreuen, Kompt alles her, kompt
weg bewerben, So musst ich doch, so
nichts erfreuen, Kompt alles her, kompt
weg bewerben, So musst ich doch, so
nichts erfreuen, Kompt alles her, kompt
weg bewerben, So musst ich doch, so

Continued
Example 3.2a Continued

all - es her, all - ein auss dei - ner tre - wen.

müst ich doch, vor laid ge - wiß - lich ster - ben.

wird es selbs, zu sei - ner zeit wol rich - ten.

ein aus der tre - wen. Kompt

laid will - lich ster - ben. So

fraw mein Hertz be - ses - sen. So

sei - ner zeit wol rich - ten. Gott

her, all - ein auss dei - per tre - wen.

doeh, vor laid ge - will - lich ster - ben.

mir, Jung - fraw mein Hertz be - ses - sen.

selbs, zu sei - ber zeit wol rich - ten.
Example 3.2b “Kein stund, kein tag nit ist.”

Cantus
1. Kein stund, kein tag nit ist, Wann ich ge - denck den list,
2. Has - tu dann nit ge - dacht, Daß ich hab alls be - tracht,
3. Ich bitt ge - denck der zeit, Wie offl sind wir er - freut,
4. Ich hoff den - noch zu Gott, Du werst noch selbst den spott,

Tenor
1. Kein stund, kein tag nit ist, Wann ich ge - denck den list,
2. Has - tu dann nit ge - dacht, Daß ich hab alls be - tracht,
3. Ich bitt ge - denck der zeit, Wie offl sind wir er - freut,
4. Ich hoff den - noch zu Gott, Du werst noch selbst den spott,

Bassus
1. Kein stund, kein tag nit ist, Wann ich ge - denck den list,
2. Has - tu dann nit ge - dacht, Daß ich hab alls be - tracht,
3. Ich bitt ge - denck der zeit, Wie offl sind wir er - freut,
4. Ich hoff den - noch zu Gott, Du werst noch selbst den spott,

Continued
The two volumes of canzone italiane (1574–81) can for the most part be classified as madrigals. They are akin to the Teutsche Lieder in musical style, though they are slightly more active harmonically. The first volume was twice reprinted, and both volumes appeared in German translation in 1595. Example 3.3 is my transcription of the first canzona from Il primo libro delle canzone italiane (1574). It was published two years prior to Regnart’s first employment under Rudolf, but serves well to demonstrate his early style. The texture is largely homophonic, with few melismatic or complex polyphonic sections, and the rhythms are simple and dance-like. There is little to indicate word-painting, and indeed the whole composition, like the Teutsche Lieder, seems geared towards non-professional musicians, given its small ranges, limited uses of leaps, and written out musical and textual repeats. This set was reprinted twice in Italian, and again
in German translation in 1595, over twenty years after its first appearance, suggesting the popularity of the works in Southern and Central Europe.

Example 3.3 Jacobus Regnart, *Il primo libro delle canzone italiane* (1574), “Tutto lo giorno.”
Example 3.3 Continued

Continued
Example 3.3 Continued

```
no, e poi la not - te, e poi la not - te,
no, e poi la not - te, e poi la not - te,
no, e poi la not - te, e poi la not - te,
no, e poi la not - te, e poi la not - te, Quan -
no, e poi la not - te, e poi la not - te, Quan -
```

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Quan - do st'ad - or - mi - re, mi par in
Quan - do st'ad - or - mi - re, mi par in
Quan - do st'ad - or - mi - re, Quan - do st'ad - or - mi - re,
Quan - do st'ad - or - mi - re, Quan - do st'ad - or - mi - re,
Quan - do st'ad - or - mi - re, Quan - do st'ad - or - mi - re,
Quan - do st'ad - or - mi - re, Quan - do st'ad - or - mi - re,
Quan - do st'ad - or - mi - re, Quan - do st'ad - or - mi - re,
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Continued
Example 3.3 Continued

Continued
Example 3.3 Continued

\begin{verbatim}
C 43
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
A 43
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
T 43
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
Q 43
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
B 43
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
C 49
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
A 49
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
T 49
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
Q 49
\end{verbatim}
\vspace{1cm}

\begin{verbatim}
B 49
\end{verbatim}

\vspace{2cm}

\textit{Continued}
Example 3.3 Continued

Regnart’s sacred works have received less attention than his secular compositions, though they make up a greater percentage of his output.⁶ Following his death, four sacred collections were published by his widow, including a volume of motets for four to twelve voices (including one for seven voices), and three volumes of masses that include twenty-nine total masses for four, five, six, eight, and ten voices. These works remain largely unpublished with a few exceptions, as shown in Table 3.2 above. My transcription of one of Regnart’s motets is given below, “Salve puella gratia,” for six voices, in Example 3.4. It comes from a manuscript now held in Vienna, ÖNB Mus. ms. 16705, a massive volume of sixty-eight motets by a wide variety of composers. Many were written by well-known figures, including thirty-three by Palestrina and nine by

⁶ Important exceptions are Friedemann Mossler, “Jakob Regnart’s Messen,” and Walter Pass, “Jacob Regnart und seine lateinischen Motten.”
Orlando di Lasso. Only four of the motets were written by composers based in Prague, including one by Gallus/Handl and three by Regnart, suggesting it was an imperial manuscript used primarily in Vienna. In the motet below we can see an example of Regnart’s sacred style, which does not vary greatly from the Lieder and Canzona transcribed above. “Salve puella gratia” is still conservative harmonically, relies heavily upon homophonic textures, and features few melismas or complex rhythmic material. One common compositional element is most noticeable for its absence, as in Examples 3.2 and 3.3, the extremely limited use of imitation. While some of Regnart’s sacred works do employ occasional imitation, see for example Missa Christ ist erstanden transcribed in the 35th volume of RRMR, the technique appears far less frequently in his works than in compositions by Philippe de Monte.

Indeed, this difference in style raises the issue of influence on lesser-known composers in Prague. Despite Regnart’s fame and immense success of his secular song-books, he appears to have had less of an influence than Monte on his fellow composers in Prague. Most of the composers surveyed in the rest of this chapter, including Luython, Orologio, and Zanotti, rely heavily on imitation in both their secular and sacred works, just as is seen in the music of Monte. Regnart’s music also displays less overt instances of word painting, or indeed much effort to musically express the specific meanings of the text at all. There are fewer instances of switching to triple meter, for example, for triumphant passages of Alleluia, a common tool employed at the time.

The most appealing aspects of Regnart’s music as shown in these transcriptions are the refined and simple harmonies, stately rhythms, and a sense of “singability.” These elements, which

possibly came from his extended study in Italy, do not appear as frequently in the works of Rudolf’s composers, who instead tend to concentrate on pervasive imitation, vivid tone-painting, and more complex harmonic motion, traits which, I contend, are more apparent in the works of Monte. Regardless, Regnart’s music has a definite charm, and will certainly reward further continued study.

Example 3.4 Jacobus Regnart, “Salve puella gratia.”

Continued
Example 3.4 Continued

Continued
Example 3.4 Continued

C
nes de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
nes de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
nes de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-

Q
nes de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-

A
nes de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-

T
nes de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-
en-s de co-ra, vir-gin-es et sup-re-ma, quae vin-cis oen-nes coe-li tum-or-din-

S
nes de co-ra, vir-gin-es et sup-re-ma,

B
nes de co-ra, vir-gin-es et sup-re-ma,

Continued
Example 3.4 Continued
Carolus Luython, 1557/8-1620, under Rudolf, 1576-1612

The earliest biography of Luython was authored by Burbure in 1880. Albert Smijers reviewed Luython’s biography in his Ph.D. dissertation of 1923, adding significant information about his life, and in particular his place and date of birth. Since then there have been no monographs on Luython, though Comberiati provides a thorough overview of the composer’s biography, as well as providing translations of important payment receipts and other court records vital to establishing when Luython worked in Prague and under what capacity. Other biographical information is available in the dedications of Luython’s five published works, two of which are reviewed in this chapter. Of these five works, and a scattering of other compositions in manuscripts, only two, *Il primo libro de madrigali* (1582) and *Opus musicum. . . in lamentationes Heiremiae prophetae* (1604), have been fully transcribed into modern notation, as well as parts of *Liber primus missarum* (1609). Most of Luython’s keyboard works from the second decade of the seventeenth century have also been published, and Comberiati and myself are currently collaborating on a critical edition of the complete *Liber primus missarum*.

Luython was a Flemish composer and organist who began his employment under the Habsburgs in 1566 when he served as a chorister in Vienna at the court of Emperor Maximilian II. After his voice changed Luython traveled to Italy in 1571 to continue his

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58 See Comberiati, *Late Renaissance Music at the Habsburg Court*, 62f, for a summary of the debate on Luython’s birthdate.
61 Comberiati, *Late Renaissance Music at the Habsburg Court*, 62-77.
studies in music. He returned to Vienna in 1576 where he served as a “chamber musician,” likely as an organist. He continued to serve as a chamber organist in Rudolf’s newly established court, and moved with the rest of the ensemble to Prague. In 1582 Luython, as the second court organist, was part of the musical entourage that traveled with Rudolf to the Diet at Augsburg. In the same year Luython published his aforementioned book of madrigals for five voices dedicated to Johann Fugger, magnate of Augsburg.

Besides one collection of *Popularis anni jubilus* (1587), motets, dedicated to Rudolf II’s brother Archduke Ernst to celebrate his consecration as bishop, there are no other extant publications by Luython from the sixteenth century. The *Liber primus missarum* contains several masses which were almost certainly composed during the 1580s and 1590s, but were not published until 1609. In addition to his work as a composer, Luython served primarily as an organist. Court records detail his collaboration on the reconstruction of the organ in the Prague Cathedral with Albrecht Rudner; there were several disagreements between the two, apparently over tuning systems.⁶² In 1587 Luython was granted a minor coat of arms for his service as a court organist, which ironically might have led to his later poverty as it made it difficult for him to find other work after Rudolf’s death. By at least 1596, and more likely by 1594, Luython had earned the position of first court organist.

Following Monte’s death in 1603 Luython probably held the position of court composer until Rudolf abdicated his throne. The next few years were among his most

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prolific: three published compilations in six years, which will be discussed in the next Chapter. After Rudolf’s abdication, though, and like many of the Emperor’s former musical employees, he never received payment for much of the work he had done and been promised. Luython owned a specially built microtonal omnichordon, which he famously had to sell in 1613 due to a lack of payment from his imperial employers.\footnote{Adolf Koczirz, “Zur Geschichte des Luython’schen Klavizimbels,” Sammelbande der Internationalen Musikgesellschaft 9 (1907–8), 565–70.} He died in poverty in 1620, after composing several keyboard works which were precursors to the Baroque fugue.\footnote{Comberiati, “Luython, Carl,” Grove Music Online. Oxford Music Online, accessed August 16, 2012, http://oxfordmusiconline.com.}

Throughout his career Luython’s music reflects the influence of his mentor, Philippe de Monte. The sixth piece of Luython’s only book of madrigals, “Sacro monte mio dolce,” is an homage to Monte featuring a text possibly written by Luython himself. The other ten texts in the book are by Petrarch, a common author for Monte’s madrigals. Four of the nine masses in Luython’s \textit{Liber primus missarum} are parody masses on motets and madrigals written by Monte. Stylistically, Luython’s work from before 1600 features the traditional techniques of vocal music from the second half of the sixteenth century that Monte had perfected: pervasive imitation, call-and-response voice groupings, and homorhythmic cadences at the end of works, often with increased rhythmic activity.

Luython published two collections before 1600, both in the 1580s. Judged by his prolific output in the first decade of the 1600s, it appears that most of his time during the 1590s was dedicated to organ performance at the court. The first publication appeared in 1582, \textit{Il primo libro de madrigali}, printed in Venice for five voices. Three of the
madrigals appear in volume 77 of *Denkmäler der Tonkunst in Österriech* (1934), while all eleven are transcribed in Sass’s dissertation, *Charles Luython: ses madrigaux et oeuvres instrumentales* (University of Leuven, 1958). The works are primarily imitative and conservative harmonically, though they are not without their charm, which is especially evident in the brief homophonic passages where Luython’s skill seems to be the most evident.

Luython’s other publication from the 1580s remains unedited in modern notation and I will therefore concentrate more fully on its content and style. *Popularis anni jubilus* was published in Prague in 1587. The original work was for six voices, but only five parts have survived, currently held in Wroclaw, Poland, in the Biblioteka Uniwersytecka. The work’s dedication, dated the 2nd of January, 1587, reveals that it was meant to celebrate the new year. It consists of twenty-one individual works, the texts written by Georgius Bartholdus Pontanus a Breitenberg, Dean of the Cathedral in Prague. Pontanus would later compile and edit a large collection of texts on astrology in the early seventeenth century while still in Prague. Luython also dedicated his only book of motets to Pontanus in 1603, whom we encountered earlier when discussing Monte, as he was the dedicatee of one of the poems by Elizabeth Weston.

The topics of the individual pieces vary widely and serve well to celebrate the new year. They include lengthy descriptions of the many virtues of the king, the dawning of the new year both on earth and in the celestial sphere, drinking songs that often contain praise of Bacchus, Greek heroes and gods, songs in praise of Christ, and celebratory

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65 Four of the five extant voices have been scanned and are available online at [http://www.bu.uni.wroc.pl](http://www.bu.uni.wroc.pl).
67 Evans, 160f.
songs that frequently employ onomatopoeia. The pieces are mostly grouped according to theme, rather than by mode or tonal type, as the following Table reveals:  

Table 3.3 Tonal types and textual themes in Carolus Luython’s

*Popularis anni jubilus* (1587)

<table>
<thead>
<tr>
<th>Piece</th>
<th>Incipit</th>
<th>Topic</th>
<th>Tonal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Annum exactis defluxit</td>
<td>The new year</td>
<td>c1-γ-D</td>
</tr>
<tr>
<td>2 (secunda pars)</td>
<td>Morbus edax fugiet</td>
<td>The new year</td>
<td>c1-γ-G</td>
</tr>
<tr>
<td>3</td>
<td>Officiis socii iam</td>
<td>The King’s virtues</td>
<td>c1-γ-D</td>
</tr>
<tr>
<td>4 (secunda pars)</td>
<td>Rex ego praecipio</td>
<td>The King’s virtues</td>
<td>c1-γ-G</td>
</tr>
<tr>
<td>5 (tertia pars)</td>
<td>Rex noster viuat</td>
<td>The King’s virtues</td>
<td>c1-γ-G</td>
</tr>
<tr>
<td>6</td>
<td>Tympana dent sonitum</td>
<td>Drinking song</td>
<td>c1-γ-D</td>
</tr>
<tr>
<td>7 (secunda pars)</td>
<td>Coniugio addicti socij</td>
<td>Drinking song</td>
<td>c1-γ-A</td>
</tr>
<tr>
<td>8 (tertia pars)</td>
<td>Chare sodalis aue</td>
<td>Drinking song</td>
<td>c1-γ-D</td>
</tr>
<tr>
<td>9</td>
<td>Extulumus mortem</td>
<td>Greek hero Pylios</td>
<td>c1-γ-G</td>
</tr>
<tr>
<td>10</td>
<td>Diffuge tristis Hyems</td>
<td>Greek Gods</td>
<td>c1-γ-A</td>
</tr>
<tr>
<td>11 (secunda pars)</td>
<td>Tu friges</td>
<td>Greek Gods</td>
<td>c1-γ-A</td>
</tr>
<tr>
<td>12</td>
<td>Plaudite Christi colae</td>
<td>The resurrection</td>
<td>c1-γ-C</td>
</tr>
</tbody>
</table>

*Continued*

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As *Popularis anni jubilus* has not been republished since 1587, I provide here my transcriptions of the five extant voices of three pieces, numbers three, “Officiis socii iam,” ten, “Diffuge tristis Hyems,” and sixteen, “Inserias facimus Ganzae.” These motets demonstrate the variety of Luython’s compositional style in the 1580s: all rely heavily upon pervasive imitation and frequent call-and-response between groups of two or three voices. “Officiis socii iam” praises the King and describes a party held in his honor. The text depicts sweet songs, drinks, and dances (“dulce melos, et dulce merum, dulcesque choreae”) while all present hope for the King’s health. The setting features prominent dotted rhythms, meant to represent the dance, though the moment where the dance itself is mentioned does not receive any special treatment. In “Diffuge tristis Hyems” Luython...
employs a call-and-response between groups of two and three voices throughout most of the composition, which presumably would be a three-voice against three-voice if the altus was extant. “Inserias facimus Ganzae,” describes the mythological flock of geese that fly to the moon, known as the Gansa. The call-and-response method is less prevalent, but Luython employs far more melismas, likely done to mimic flight. Bird sounds are also present, as the cheerful Gansa chirp “ga ga gi ga ga.” Similar animal sounds seem to occur in the twentieth and twenty-first piece, “Salue beate infantile,” and “Mater refundit canticum.” The texts describe the manger scene at Jesus’ birth, and ends with what seems to be the braying of donkeys. Piece twenty ends with the text, “Respondet omnis caelicus, tibi fit omnis Gloria, Bruneya, Bruneya.” And twenty one, “Cum gaudio cum iubilo, in hoc salus presepio, Bruneya, Bruneya.” I have been unable to find another meaning of “Bruneya,” and it seems possible it is meant to represent a bray or a cheer. Below are three pieces from this publication, given here for the first time in modern notation.
Example 3.5a Carolus Luython, *Popularis anni jubilus* (1587), “Officiis socii iam”
Example 3.5a Continued

D 16
ferre, Rex nos-ter bon-us est et mul-to no-mi-ne di-

A I

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Rex nos-ter bon-us est et mul-to no-mi-ne dig-nus,

T I

S

fi-er-e, Rex nos-ter bon-us est et mul-to no-mi-ne di-

B

fi-er-e, Rex nos-ter bon-us est et mul-to no-mi-

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Example 3.5a Continued
Example 3.5b Carolus Luython, *Popularis anni jubilus* (1587), “Diffuge tristis Hyems”
Example 3.5b Continued

Continued
Example 3.5b Continued
Example 3.5b Continued

Continued
Example 3.5b Continued
Example 3.5c Carolus Luython, *Popularis anni jubilus* (1587), “Inserias facimus Ganzae”
Example 3.5c Continued

Continued
Example 3.5c Continued

Continued
Example 3.5c Continued

Continued
Luython seems to have done nothing overt to highlight the mystical or astrological aspects of the texts in *Popularis anni jubilus*. There are several mentions of the planets and mythological figures; for example, the second piece describes singing a song to the stars, the ninth the “mystical gifts” (mystica dona) of the Greek gods, and the twentieth and twenty-first discuss the sun, moon, and earth. Each of these would have been easy to represent musically with the techniques discussed in Chapter 2, but I have been unable to find any evidence that Luython made an effort to incorporate, for example, the modes of the planets or the pitches of the zodiac signs that relate to mythological figures. It is my contention, however, that he did begin to include mystical
elements in his compositions in the early seventeenth century, which is discussed in Chapter 4.

*Alessandro Orologio, c1550-1633, under Rudolf, 1580-1612*

Orologio was an Italian composer and instrumentalist who appeared first in the archives as a trumpeter at Rudolf’s court in 1580. He worked at the court in various roles until 1613, including the position of vice-Kapellmeister in 1603, when he likely also assumed the duties of a Kapellmeister. During his career he published four books of madrigals, three books of Canzonette, and one volume of Intradae. Nearly all of these works have been published with extensive commentary in his recent *Opera Omnia*, and subsequently it is not necessary to linger long on his music here. The elements of his style are similar to those of other composers in Prague: tight imitation, limited use of chromaticism, and frequent homophonic writing. He is best remembered for his instrumental *Intradae*, dedicated to Christian IV in 1597. They are short, simple, and tuneful pieces and are among the few examples of extant instrumental music from Rudolf’s court. Orologio also published a volume of Canzonette for three voices, which was intabulated for the lute by Francesco Sagabria. The volume was dedicated to Heinrich Julius, Duke of Braunschweig-Luneburg, who had interests in alchemy and magic similar to Rudolf’s and would later host musical performances at his castle in

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Wolfsburg, including one by John Dowland in 1594. My study of the collection revealed no obvious connections to the hermetic doctrine reviewed in Chapter 2.

Jacobus de Kerle, 1531/32-1591, under Rudolf, 1582-1591

Jacobus de Kerle had a long and prolific career before coming to Prague to work for Rudolf for the last seven years of his life, where he was not highly active as a composer or musician.\(^71\) His importance, therefore, was not primarily for music penned at the court, but for the link, perhaps more symbolic than material, to the Roman School and the Council of Trent. Before coming to Prague, Kerle worked for several courts in Italy, Germany, and the Netherlands. In 1563 it is likely he met a young prince Rudolf II while in the service of Cardinal Otto Truchsess von Waldenburg, Bishop of Augsburg. Kerle traveled through northern Italy to Barcelona from August 1563 to May 1564 in the entourage of Cardinal Otto, who was escorting Rudolf and his brother Ernst to the Spanish court. Over the next twenty years he traveled widely, including visits to Rome, Augsburg, Ypres, Cologne, Vienna, and possibly Munich.

Kerle entered Rudolf’s service in 1582 in connection with the imperial parliament at Augsburg and served as a court chaplain before he finally settled in Prague later that year, where he mostly remained until his death. He performed with one choir in Prague in 1587, and from late 1587 to spring 1588 he worked as a canon of the collegiate foundation of the Heilige Kreuz in Wroclaw. Otherwise, the records of musical

involvement in Prague are not conclusive, and very little of his music dates from these final years. Comberiati provides a summary of payments made to Kerle, including two unexplained payments made for books of masses that are no longer extant, and possibly never existed. Kerle published one set, *Quatuor Missae suavissimis*, immediately prior to arriving in Prague, which was printed three times with different dedications, all published in Antwerp by Christoph Plantin. The first edition was dedicated to Kerle’s then employer, Archduke Gebhard of Cologne. The set was republished in 1583 with a new dedication to Rudolf II. A third dedication is found in a copy now held at the Biblioteca Apostolica Vaticana in Rome, to Pope Gregory XIII, dated October, 1582. The contents are identical in all three prints, but included new versions of three masses, *Missa Regina coeli*, *Missa Ut re mi fa sol la*, and *Missa de Beata Virgine*, which had previously been published in 1562. Kerle updated the settings by adding voices and removing Marian tropes, which were frowned upon by the Council of Trent.

Kerle is perhaps best known for his *Preces speciales*, settings of ten prayers arranged in the form of responsories that end with a doxology and a Kyrie. Kerle penned this set for use at the Council of Trent; the prayers seek blessings, the success of the council, and an end to religious strife. The work demonstrates careful treatment of the text and a declamatory style. Early twentieth-century biographer Otto Ursprung wrote that *Preces speciales* was performed often at Trent and that the pieces were “edifying and suitable for the time,” due to the careful use of polyphony and the audibility of the text.

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72 Comberiati, *Late Renaissance Music at the Habsburg Court*, 83-87.
73 Ibid., 85.
74 Ursprung edited the *Preces speciales* (Venice: Gardano, 1562), in *Denkmäler der Tonkunst in Bayern*, vol. 26 (Wiesbaden: Breitkopf & Härtel, 1926).
Ursprung argued that if any composer, therefore, should be declared the “savior of church music,” it should be Kerle and not Palestrina.\(^75\) What influence these works had on music in Prague, however, is unclear. It is possible, as Comberiati suggests, that the conservative style of Kerle influenced the Quodlibet Masses of Luython and the simple style of Handl, but as Kerle had little involvement with the musical institution while in Prague it is doubtful he wielded much influence.\(^76\)

Despite Kerle’s influence over the Council of Trent, few of his works have been published in the modern era. The aforementioned *Preces speciales* appear in volume 34 of the *Denkmaler der Tonkunst in Bayern*, and scattered motets are published in various collections (see Table 3.2). Of the mass settings dedicated to Rudolf, *Missa Regina coeli* is included in volume two of *Anthologia Polyphonica*, published in Rome in 1932. Below is my transcription of the opening Kyrie of *Missae Da pacem Domine*, the only mass from *Quatuor Missae suavissimis* which was not repurposed from a previous publication. It is a cantus firmus mass based on the chant melody “Da pacem Domine.” The melody appears in the second superius, where the text of the original chant was also printed below the Kyrie text. The other parts are loosely based on the melody, which does not have any distinctive leaps. The Kyrie as a whole is more complex polyphonically than most of the music we have seen from Prague’s composers, who tend towards homophonic blocks and tone-painting. There is more movement in Kerle’s setting, as well as melodic lines passed between the different voices. The style is more clearly

situated in the mid-1500s, with modal harmonies, thick vocal texture, frequent use of ligatures, and the presence of a cantus firmus. While other composers in Prague had the ability to write in this manner, as evidenced by the masses of Philippe de Monte and Carolus Luython, they rarely did so, indicating that Comberiati’s assessment that Kerle wielded little direct influence over the musical culture in Prague is accurate.
Example 3.6 Jacobus de Kerle, *Missa De pacem Domnie*, Opening “Kyrie” (1582)

Continued
Example 3.6 Continued
Example 3.6 Continued
Example 3.6 Continued

Continued
Handl was of Slovenian descent and worked in Austria, Moravia, and Bohemia. In the mid-1560s he left his homeland to travel to Austria, staying first at the Benedictine abbey in Melk. He began his career in composition relatively late in his life, on the encouragement of Johannes Rueff, cannon and later Abbot, to whom Handl later dedicated his fourth book of masses in 1580. Around 1575 Handl left Austria and

traveled through Bohemia, Moravia, and Silesia. He often stayed in monasteries, and was documented as visiting Wrocław, Prague, Olomouc, and Zábrdovice, where he met the abbot of the Premonstratensian monastery, Caspar Schönauer, to whom he also later dedicated several works. The Bishop of Olomouc, Stanislaus Pavlovský, appointed Handl choirmaster in late 1579 or early 1580. Handl’s first printed work was a seven-voice hymn, “Undique flammatris Olomucum sedibus arsit,” written to celebrate Pavlovský’s election as bishop.

At some point in the mid-1580s, and at least by mid-1586, Handl had moved to Prague where he assumed the position of cantor at St. Jan na Brzehu. The rest of his life was spent in Prague, where he undoubtedly became acquainted with the intellectual society, composers, and musicians of Rudolf’s court. As evidence, a six-voice ode of his appears in *Odae suavissimae*, dedicated to imperial almoner Jacob Chimarcheus and discussed below in relation to Philippe Schöndorff, nearly a decade after Handl’s death. None of his extant published works, however, was dedicated to Rudolf; instead, he dedicated his publications to members of the clergy, most of whom he knew personally.

Handl’s publications were predominately sacred, and were frequently set for more than one choir. Following “Undique flammatris Olomucum sedibus arsit,” and immediately prior to or after arriving in Prague, he published four books of masses, each containing four individual settings. Most of the masses in the set *Selectiores quaedam missae, pro ecclesia* (1580) were likely written before he arrived in Prague, i.e. in Wrocław, Zabrdovice, and perhaps Melk. The title, “some selected masses,” indicates

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that there were others masses for Handl to choose from. Included in the title page is also
the phrase “liber I,” suggesting that he meant to publish more mass collections, though
there are no records of any more such publications. Four other masses have been found in
manuscripts, which are all published in volume 28 of MAMS (Monumenta artis musice Slove
niae).

Selectiores quaedam missae, pro ecclesia contains primarily parody masses. The models included his own work and pieces by Christian Hollander, Philippe Verdelot,
Clemens non Papa, Giaches de Wert, Orlando di Lasso, Ludwig Senfl, Jobst vom Brandt,
and Thomas Crecquillon. The first book of Selectiores quaedam missae, pro ecclesia was
dedicated to his previous employer, Stanislav Pavlovský, bishop of Olomouc. It contains
three eight-voice masses for two choirs and one seven-voice mass. Rather than opening
with a mass for the larger chorus, however, the first printed mass is the setting for seven
voices, based on the abovementioned hymn that also dedicated to Pavlovský. Book two
of the set contains four masses for six voices, and was again dedicated to Pavlovský.
Book three was dedicated to the Abbot of the Premonstratensian monastery in Zabrdovice
near Brno, Caspar Schönauer, which was one of the monasteries at which Handl had
stayed during his years of travel before moving to Prague. It contains four masses for five
voices. Book four was dedicated to the Abbot of the Cistercian monastery Zwettl in
Austria, Johann Rueff. Handl had also met this influential clergyman during his travels
several years earlier while staying in the Benedictine monastery in Melk, where Rueff
was a capitular. The publication contains four masses for four voices.

79 For more on these masses, see the introductory material in Jacob Handl, Selectiores quaedam Missae, in
Between 1586 and 1590, while employed in Prague, Handl published four massive volumes of motets ranging from four to twenty-four voices. Each book contains over one-hundred pieces, the final volume holding an impressive 144. The four, five, and six voice motets are written for one choir, while the motets written for eight voices and larger are split into two, three, or four choirs. Although MAMS has already published a complete edition of these motets, spanning sixteen volumes, it is worth reproducing several sections here to compare style with Handl’s contemporaries in Prague. The six-voice motet shown below in Example 3.7a, “Viri sancti,” incorporates some responsorial writing, though it is mostly polyphonic among the six parts. The opening three-voice group is quickly imitated by the lower three voices, but this split is erased by the fourth breve as all six voices sing a dotted semiminum to fusa either ascending or descending. The music is largely reflective of the text, which is heard in the stately homophonic repetitions of “Et ideo, corornas triumphales meruerunt” that makes up almost half of the motet. “Vire sancti” is harmonically and rhythmically conservative, as are most of Handl’s compositions.

The complexity in his works, however, grows with the number of voices, as seen in Example 3.7b, the eight-voice motet “Ego flos campi.” The motet begins simply enough, with the two choirs alternating in imitation and repetition. Seven breves in, however, the rhythmic intensity is greatly increased on the text “et lilum convalium” (lily of the valley). In measure thirty-one of the transcription the two choirs join in a clear display of tone painting on the text “puteus aquarum viventium” (of living water). The voices are far more active than in most of Handl’s oeuvre, and indeed more so than most

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of the works by Handl’s contemporaries in Prague, with fast, repetitive motives, octave
leaps, and texts that are not aligned between the two choirs. This symbolic building of
rushing water is freed on the word “fluunt” (flow), which releases a string of melismas
until the end of the piece.

The last example is an impressive motet for twenty-four voices, “Cantate Comino
canticum novum.” The parts are divided into four six-voice choruses, and are labeled in
the collection’s title of contents as one of the “Psalmi omnibus Sanctis triumphales,” or
triumphant psalms. As with many of the motets, the bulk of the piece consists of
responsorial singing among the different choruses, culminating in all the choirs sounding
together. Only a few of the pages from the transcription are given below, as it totals
twenty-two pages in modern notation, but they suggest the grandiosity of Handl’s
polyphonal motets.
Example 3.7a Jacobus Handl, *Quartus tomus musici operis, harmoniarum quatuor...* “Viri Sancti” (1590)

Continued
Example 3.7a Continued
Example 3.7a Continued
Example 3.7a Continued

Continued
Example 3.7a Continued
Example 3.7b *Quartus tomus musici operis, harmoniarum quatuor...* “Ego flos campi,” measures 31-49.
Example 3.7b Continued
Example 3.7b Continued
Example 3.7c *Harmoniae quatuor vocum Psalmi Omnibus sanctis triumphales,*
“Cantate Comino canticum novum,” measures, 32-38.
Example 3.7c Continued
Handl’s first known foray into secular music was during the final years of his life. The result appeared in two publications: a first set in three books, *Harmoniae Morales*, published in 1589 and 1590, and a second group, *Moralia Iacobi Handl Carnioli*, published six years after his death by Handl’s brother Georg Handl. Jacobus was at the time the director of music at the church of St. Jan na Brzehu. He had not previously published secular music as he thought it was not a worthy pursuit, but, as he indicates in the introduction to *Harmoniae Morales*, friends persuaded him to “leave aside now and then the demanding sacred music, to drop his cares and enjoy life; they summoned him from the choir-loft to the market-place, from his solemn and serious affairs to the mirthful frolics and heathside suppers.”81 All told he published exactly 100 secular pieces; the precise number was not intentional, however, as he indicated that he meant to write and print more. The first fifty-three compositions appeared in *Harmoniae Morales*, and the last forty-seven in *Moralia Iacobi Handl Carnioli*.

The pieces themselves were not called madrigals, instead Handl coined a new name to describe his compositions. He wrote, “this rather gay kind of song, a substitute for Madrigalia, I entitle Moralia, and it is my wish that they may henceforth be so called, as the choicest manners in them are not in the least wanton, but they shun even the shadow of indecency.”82 The compositions have mostly moral and ethical tones, dealing with truths about human virtues, defects, and existence. There are also several moralia that are more cheerful, such as those that are replete with animal noises, bell sounds, and vivid tone painting, examples of which are given below. As opposed to many madrigals

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82 Ibid.
or chansons, Handl’s moralia rarely discuss love or women, and when they do it is almost always in a negative light. The nineteenth piece from the first set, the author of which is unknown and may well have been Handl, is a good example:

Uxor, amice, tibi est semper mala. Cum male tractas, fit peior, sed fit pessima, quando bene. Sed bona, si moriatur, erit, melior tamen, id sit e faciat vivo, ast optima, si propere.

[A wife, my friend, is always a bad thing for you. If you treat her badly, she will be worse, if well, the very worst. But she will be a good thing if she dies, better if she does it in your lifetime, and best of all if she does it straight away.]

The texts themselves are all in Latin, as are all of Handl’s works, a language not commonly used in madrigals, but more often utilized in secular music at Rudolf’s court, such as in Camillo Zanotti’s Madrigalia tam italica quam latina, also from 1590 and discussed below. Combined with the classical Latin poetry of Elizabeth Jane Weston, Prague appears to have been a center for works in Latin, a topic for future study for historical linguists and musicologists. The text by an unknown author from one of Handl’s moralia, number forty-nine from the 1590 set, reveals the strong preference for Latin:

Linguarum non est praestantior ulla Latina, quam quisquis nescit, barbarous ille manet. Sis Italus, Gallus, Germanus sive Polonus, nil nisi vulgaris diceris arte rudis. Quisquis Latine nequit, nulla se iactet in arte, nil scit, nil didicit, barbarous ille manet.

[Of all the tongues there are, not one is finer than Latin, whoever does not know it remains a barbarian.]

83 MAMS 26, xxxi, translation by Alasdair MacKinnon.
Whether you are Italian, French, German or even Polish, art will pronounce you a man of the lowest sort. Anyone who knows no Latin need not aspire to art, he simply knows nothing at all – a barbarian he will remain.]

The texts of Handl’s moralia are taken from a variety of sources, the most common being an anthology of classical and medieval sayings and aphorisms published in Basle in 1576, Carmina proverbialia, and a similar collection published in Frankfurt in 1575, Proverbia dictoria. A third of the texts are snippets from classical poets including Ovidius, Vergilius, Horatius, Maximianus, Martialis, Catullus. Twenty of the texts have unidentified authors, and were possibly written by contemporary humanists or Handl himself.

The moralia have features of motets, madrigals, and chansons. Handl mostly avoids the polychoral technique that is so prevalent in his motets. The first set of fifty-three moralia are all for four voices, while the second set has eighteen settings for five voices, nineteen for six, and ten for eight voices. The eight-voice moralia are all written for two four-voice choirs. The second set also differs in that it was published in Nuremberg rather than Prague, causing, according to Edo Škulj, far more printing mistakes than in the first set. There are other clues that the second set was heavily edited or not quite finished. Repetitions, for example, are far more frequent in the second set: in nearly every composition the first or second part of the moralia is repeated. Two of the compositions also have identical seven-bar passages, which does not appear anywhere else in Handl’s works.85

84 MAMS 26, xxxiv, translation by Alasdair MacKinnon.
85 Ibid., xix.
As in Handl’s motets, there are signs of very careful attentiveness to the text. While the moralia are not experimental either harmonically or chromatically, the skill with which he is able to convey the sense of the text, or interweave humorous animal or battle noises, is commendable. Texts describing mountains rise and fall through quick leaps of up to an octave, while texts about water flow melismatically. Excerpts from two moralia are given below in Example 3.8 to demonstrate the care with which Handl matched music to text. First is a humorous piece told from a point of view of a rabbit, “Currit parvus lepulus,” running up and down mountains to escape high-born hunters and their hounds. The text provides ample opportunity for Handl to display his expressive skill and to musically capture the hunt.

Currit parvus lepulus,
clamans altis vocibus:
“Quid feci nobilibus,
quod me fugant canibus?

Quando montem ascendo,
nullum canem timeo.
Quando montem descendo,
bis ter culum perverto.”

[The little rabbit runs, he calls at the top of his voice: “What have I done to the high-born that they pursue me with hounds?

When I go up into the mountains I have no fear of any hound. When I come down from the mountains I turn two or three somersaults.”]

86 MAMS 26, xxviii, translation by Alasdair MacKinnon.
As the rabbit begins his journey the text moves very quickly, and seemingly in order to enhance the feeling of movement and sound rushing by, Handl inserts solfege syllables beginning in the fourth measure of the transcription. Curiously, the syllables do not all align with the traditional hexachords. For example, the alto begins with ‘mi’ on a ‘d’, which would imply a scale beginning on ‘b’, but then sings ‘mi’ on a ‘c.’ The editor of MAMAS mentions that this text is a modification of a children’s song, so perhaps that explains the presence of the solfege syllables and their apparent misuse. Regardless, the pattering style comes to a halt as the text turns to ascending and descending the mountains, and predictably there are scalar melismas, some of which extend beyond an octave. Finally, for the text describing somersaults the music turns to bouncing leaps of thirds, fourths, and fifths.

The next example, “Heroes, pugnate viri fortissimi,” of which only an excerpt is given below, is an instance of battaglia: music that evokes the sounds of battle. The text, from an unknown source, is a patriotic endorsement of war.


[Heroes, to battle, you men of might! Quick, take up your weapons, drive the enemy from our land. The bombards sound, the drums resound, the enemy is at hand. The foe is at hand, to arms, fall on the foe, take up your swords, cut them all down!}
The catapult with its missiles will make victory yours. And so with the foe beaten down victory smiles on us, honor is ours and plunder, glory fame and triumph.]

The text affords multiple opportunities to glorify the sounds of battle, and Handl utilizes them all. There are rising and then falling sounds of the missiles from the catapult, clanging of drums, and rapid-fire sounds of combat voiced by the text “bom bidi bidi bom” performed by semifusa.

Example 3.8a Jacobus Handl, *Harmoniae Morales*, “Currit parvus lepulus” (1590)

Secunda pars

\begin{music}
\text{Quando montem ascend}
\end{music}

\begin{music}
\text{Quando montem ascend}
\end{music}

\begin{music}
\text{Quando montem ascend}
\end{music}

\begin{music}
\text{Quando montem ascend}
\end{music}

\begin{music}
\text{Quando montem ascend}
\end{music}

\begin{music}
\text{Quando montem ascend}
\end{music}

\begin{music}
\text{Quando montem ascend}
\end{music}

Continued

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\textsuperscript{87} MAMS 26, xxxiv, translation by Alasdair MacKinnon.
Example 3.8a Continued
Example 3.8a Continued
Example 3.8b Jacobus Handl, *Hamoniae Morales*, “Heroes, pugnate viri fortissimi” (1590)
Camillo Zanotti, c1545 – Feb. 1591, under Rudolf, 1587-1591

Zanotti was of Italian descent and was born around 1545 in Cesena. He likely served in the Netherlands before he moved to Prague in 1587 to assume the position of vice-Kapellmeister, where he stayed for the remainder of his life. Zanotti may also have traveled to Prague at least six months before he assumed an official position at the court, as Robert Lindell has argued. Lindell points as evidence to the dedication of Zanotti’s Madrigalia tam italica quam latina of 1590. The work is split between songs in Italian and Latin and was dedicated to Vilém z Rožmberk. The pieces were probably intended for the wedding between Rožmberk and Polyxena Pernstein, which occurred in January 1587, six months before he began his position of vice-Kapellmeister. Zanotti seems to have been well regarded by Rudolf, as his monthly salary of twenty-five guilders was higher than the average, and he used the imperial coat of arms on the title pages for both of his publications dedicated to the emperor.

Zanotti published five volumes of exclusive material during his tenure in Prague, which are the only works of his to have survived with the exception of individual madrigals and motets in compilations. Two publications were dedicated to Rudolf, a book of madrigals for five voices (1587), and another for six (1589). He also published a mass setting for five voices (only four of which are extant), and two other sets of madrigals with different dedicatees. Three individual madrigals have been printed in Denkmäler der...
Tonkunst in Österriech, and one in the Italian Madrigali pastorali intitolati Il bon bacio, but otherwise his work remains largely unknown.⁹⁰

Zanotti’s set of madrigals for six voices from 1589 contains a traditional Staatsmotte that deserves attention as it is dedicated to Rudolf. It was transcribed by Alfred Einstein and published in the 77th volume of DTÖ. The madrigal is primarily homophonic and does not feature a common technique of a call-and-response between the three higher and three lower voices, but instead the six voices are present nearly all the time, with never less than four sounding at once. There are some instances of imitation, but they are not highly noticeable in the thick texture of the piece. The text, possibly written by Zanotti, compares Rudolf to the Roman emperor Caesar Augustus and claims that only Rudolf is worthy of his name:

O di progenitori Eccelsi Augusti Cesare Augusto invitto,  
Quai fien lodati i carmi ch’al valor,  
cui non è termin prescritto Di mortal Gloria,  
mai giungin eguali!  
Il sol porti su l’ali,  
sol dunqu’ eterno di Rodolfo il nome,  
Gloriose, del sol ben degne some.

Zanotti highlights the important elements of the text with tone painting, such as a switch to triple time for the last line, in which Rudolf is declared to be glorious and well worthy of the sun. The piece has a tonal type C1-b-G and is in hypodorian. More significantly, the most important words of the poem are all represented the first time they appear with the same D triad. These include Sol (sun), Rodolfo, Cesare Augusto, Augusti, and the final Gloriose. As reviewed in the last chapter, in musical/astrological charts the

sun was traditionally represented by Lichanos hypaton (D) and the Dorian mode. These correspondences were certainly known in Rudolf’s court through the works of several writers as previously discussed. It seems likely, therefore, that Zanotti sought to show musically as well as textually the similarities between the sun, Caesar Augustus, and Rudolf II. It is also worth noting that Rudolf’s natal astrological sign was Leo, which is also represented by D and Dorian mode. Rudolf’s astrological sign held great meaning to him, discussed in greater detail in Chapter 4, which was made clear through numerous works of art and, I contend, later musical composition. As Zanotti’s efforts to glorify Rudolf through musical-astrological connections in “O di progenitori” are less overt than later attempts by Rudolf’s composers, I will save a thorough discussion of the importance of zodiac signs until later. This piece is, nevertheless, perhaps the earliest example of a composer using music to bring Rudolf to the same mystical height as the sun.

In the next year Zanotti published his last work, the fascinating Madrigalia tam italica quam latina nova prorsus, for five, six, and twelve voices in Italian and Latin. Robert Lindell has already highlighted the peculiarity of this work, but as it remains unpublished in modern notation it is worthwhile to review the work here as well as to provide selected transcriptions. Madrigalia tam italica was dedicated to Vilém Rožmberk, an important Bohemian aristocrat whose palace in Prague stood immediately next to Rudolf’s on the Hradschin. We have already briefly encountered Rožmberk in the first chapter, when he assumed the patronage of spirit-mediums John Dee and Edward

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92 For more on Vilém Rožmberk see Evans, Rudolf II and His World, 64-68; and Jiří Pešek, “Prague between 1550 and 1650,” in Rudolf II and Prague: The Court and the City (London: Thames and Hudson, 1997), esp. 273-76.
Kelley after they fell out of favor with Rudolf. Rožmberk’s wedding to Polyxena Pernstein in 1587 united two of the most important Bohemian families in Prague, and Lindell argues that at least some of the music in Zanotti’s *Madrigalia tam italica*, if not the entire publication, was originally written for the wedding celebration. Rudolf himself was present at the wedding, demonstrating the importance of the Rožmberk family. While it might have been expected that Rožmberk would have hired Philippe de Monte for the task of penning music for his wedding, Lindell conjectures that perhaps Zanotti was chosen because he was younger and more modern in his approach.

The collection itself is unusual for several reasons, the most obvious of which is that it includes Italian and Latin songs, both titled “madrigals,” even though works in Latin were rarely given that designation. The title page also pictures the Rožmberk family crest rather than the printer’s mark, although this was not highly uncommon and likely indicates that Rožmberk had paid for the printing in advance. *Madrigalia tam italica* was printed in Nuremberg, making it Zanotti’s only compilation to not have been published in Venice. Two of his individual works were later published in Nuremberg, in *Neue liebliche teutsche Lieder mit veir Stimmen nach Art der welschen Villanellen* by Rožmberk’s trumpeter/composer Gregorio Turini, indicating that Rožmberk had a relationship with the printer in Nuremberg.

The texts range from light charming poetry, to more obscure mystical texts that Lindell describes as “cryptic statements with hidden astrological or even prophetic meanings.” The second half of the work is all in Latin, and each of the last seven pieces

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94 Ibid., 194.
are *Staatsmotetten* in dedication to a member of the Rožmberk or Pernstein family, concluding with a grand twelve-voice, three-choir madrigal in celebration of the wedding itself. The dedicatees of the last seven compositions, indicated in the manuscript before each piece, are as follows:

<table>
<thead>
<tr>
<th>Table 3.4 Camillo Zanotti, <em>Madrigalia tam italica</em> (1590) dedicatees</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td><strong>Family of Polyxena Pernstein</strong></td>
</tr>
<tr>
<td>9 Arua, Pierides Musae</td>
</tr>
<tr>
<td>10 Nunc tandem</td>
</tr>
<tr>
<td>11 Naupacti victus quondam</td>
</tr>
<tr>
<td><strong>Rožmberk family and important Bohemian and Spanish families</strong></td>
</tr>
<tr>
<td>12 Musica Adame novo</td>
</tr>
<tr>
<td>13 Nata tibi proles</td>
</tr>
<tr>
<td>14 Ceu verno rosei</td>
</tr>
<tr>
<td>15 Tu post expletos thalamus</td>
</tr>
</tbody>
</table>

Given below are my transcriptions of three madrigals from this collection, numbers one, eight, and fourteen. The first, “Donò Licori à Bato,” features a text by Giovanni Battista Guarini, whose poetry was commonly used in the Prague court. Philippe de Monte later based one of his seven-voice collections, *Canto Musica Sopra Il Pastor Fido* (1600), after a play by Guarini. Both “Donò Licori à Bato” and “Tu post expletos thalamus,” the fifteenth and last madrigal in *Madrigalia tam italica* center on the
theme of a rose, which was a symbol of the Rožmberk family, as pictured in the family
coat of arms on the title page. The music includes pervasive imitation, as the opening
theme is passed between the five voices over a span of eleven breves. The frequent dotted
rhythms suggest a dance. There are several dissonances in the piece that are caused
perhaps by a strict following of imitation, but more likely by printing error. For this
transcription I have decided to leave all the pitches as given in the original print, despite
occasional dissonances. For example, in the fourth measure a d\’ sounds against e\’ and g\’,
while in the seventh measure a\’, b\’, and c\’ all sound simultaneously. Presumably in the
former the Quintus should perform and e\’ rather than in a d\’, and in the latter an ‘a’. For
this transcription, however, I have left all such dissonances in the score.
Example 3.9 Camillo Zanotti, *Madrigalia tam italica*, “Donò Licori à Bato” (1590)

Continued
Example 3.9 Continued

C
nan-do-la si fec' e si vezz-o-sa,

A
la si fe-ce, e si vezz-o-sa, Che pa-re-a ro-sa, Che do-nas-se

Q
ce, e si vezz-o-sa, Che pa-re-a ro-sa, Che do-nas' ro-

T
-e si vezz-o-sa, Che pa-re-a ro-sa, Che do-nas' ro-

B
fece', e si vezz-o-sa, Che pa-re-a ro-sa, Che do-nas' ro-

C
All' hor diss' il pas-to-re,

A
ro-sa. All' hor diss' il pas-to-re, Con un' sos-pir' dol-cis-simo

Q
sa All' hor diss' il pas-to-re,

T
sa Con un' sos-pir' dol-cis-simo d'A-mo-

B
sa Con un' sos-pir' dol-cis-simo d'A-mo-

Continued
The sixth madrigal in the collection, “Guidava il biondo Apollo,” is one of the mystical texts mentioned by Lindell, although he hesitant to determine the text’s meaning: “the other text [‘Guidava il biondo Apollo’] is apparently a reference to some sort of astrological or astronomical constellation, possibly that of the date surrounding the two weddings that are indicated in the second half of Zanotti’s print, i.e. January/February, 1587.”

The confusing text and a translation, are as follows:

Guidava il biondo Apollo il carro aurato
socco quel segno ch’al Nemeo leone,
Nel obliquo, e maggior cerchio s’oppone,
E’l ventesimo grado havea passato,
Dov’ ercol’a nocchieri il segno pone;
E l’amata gentil’ d’Endimione,
havea il nostro Hemispero illuminato.
quando ch’in ricco e molto adorno plausro,
tirato da corsieri ei lumi avanti,
Mirai suprema luce per mio male,
A cui non vide ne vedra’ l’eguale,
Girino pur tutti quei lumi errati,
l’ occaso l’orto l’aquilone ol’ Austro.

[Blonde Apollo was driving the golden chariot right underneath that [Zodiac] sign that stands opposite to the Lion of Nemea, in the greater circle, the circle that stands opposite, [Apollo] had just passed the 20th degree, where Hercules poses the limit to sailors, and Endiminone's dear beloved one [the Moon], had already brightened our Hemisphere. When in a rich and highly adorned chariot, Pulled by horses and lights, I saw a supreme light for my own bad, A light whose equal I had never nor I will see, even if all those lights were to spin around east and west, north and south.]

96 Thank you to Eleonora Mattiacci for assistance with this stubborn text.
A brief review of astrology and mythology helps make more sense of this text, beginning with the Lion of Nemea. The first of Hercules’s twelve labors was to bring to King Eurystheus the pelt of an invincible lion that was terrorizing the hills around Nemea. The legends differ as to how the lion had come to earth, one version holding that it fell from the Moon and was an offspring of Zeus and Selene (Goddess of the Moon), and another that the lion was intentionally sent to attack Nemea when the citizens did not pay proper homage to the moon. After a long journey and failed attacks, Hercules trapped the lion in its cave, where he strangled the beast. He would later fashion the pelt into a cloak that provided him with more armor, symbolically adopting the strength of the lion. Zeus later hung a likeness of the lion in the sky, producing the zodiac sign Leo. Hercules appears again in the text providing limits to sailors, a likely reference to the “Pillars of Hercules,” large masses of land flanking the strait of Gibraltar. These hills, the Rock of Gibraltar and either Monte Hacho in Ceuta or Jebel Musa in Morocco, marked the furthest west Hercules traveled in mythology and served to warn sailors of treacherous seas. They also functioned as a marker that beyond was the unknown; Plato, for example, described Atlantis as laying beyond the Pillars, while Odysseus made a daring journey through the pillars in the *Iliad*.

The text describes a *carro* (chariot) journeying across the sky, through the twentieth degree of Leo, over the strait of Gibraltar, while the moon was high (Endiminone [Endymion] was a lover of Selene). The chariot was described as visible to a poet in Prague, or possibly Zanotti himself as the author of the text is unknown. It

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seems possible that the text is therefore an account of the great comet of 1577, which also flew west to east over Europe. While comets are taken largely for granted in modern society, in the late Renaissance they were shocking occurrences that greatly changed how people viewed the universe. Due to developments in observation, astronomers, including Tycho Brahe who famously recorded the comet in November, 1577, determined that it was travelling beyond the moon, and therefore in outer space. This realization directly challenged the long held Aristotelian doctrine that the celestial spheres were perfect and unchanging. Combined with Galileo’s later demonstration that the moon was a not a perfect sphere, and Kepler’s proof that the planets traveled in ellipses and not in perfect circles, these breakthroughs permanently changed astronomy and science. The comet was surely seen from Prague, as depicted in Jiri Daschitzky’s famous engraving of the comet flying over the city, shown in Figure 3.1. The citizens of Prague gaze at the comet from below, while the signs of the Zodiac watch from above. It seems probably, consequently, that the chariot described in the poem is a reference to the comet, rather than to the wedding of Rožmberk and Polyxena as Lindell postulates.

Regardless of interpretation, Zanotti’s text provided him a good deal of material to incorporate the astrological/musical materials discussed in the previous chapter. There are astrological signs, planets, and, if my interpretation is accepted, the movement of the comet itself. Zanotti once again displays his careful attention to the text. When the words arrive at “Mirai suprema luce” (I saw a supreme light), the music shifts to a stately homorhythm. The music at the conclusion of the piece seems to depict the comet flying across the sky as the same short rhythmic and melodic motif is passed among the voices and is sung nine times total. Similarly, on the text “tirato da corsieri ei lumi avanti” (pulled by horses and lights) the music again conjures movement with leaps of an octave, and short, quick descending passages.

Connecting Zanotti’s music to any musical/astrological correspondences is more difficult and ambiguous, though it does appear that in a couple of locations an attempt
was made. “Nemeo leono” (Lion of Nemea), for example, in measure twelve of my transcription, is sung with a measure long d-minor chord, the proper chord for the sign Leo, which was traditionally associated with Dorian mode and the tone lichanos hypaton (D). Similarly, when the text turns to Endymion’s love of the moon, measure 31, there is movement from A to D and back on the word lover; A and hypodorian were the pitch and mode for the Moon. Finally, the twentieth degree of Leo had since antiquity been associated with Jupiter in the system of monomoiria, and the music for “E’l ventesimo grado havea passato,” (and Apollo just passed the twentieth degree) is centered around F harmonies, as seen in measures 18-22; Jupiter was represented by Lydian mode and parhypate meson. None of these examples are conclusive as they could all be coincidental, but that Zanotti seems to musically connect all three references with their corresponding pitches indicates that perhaps it was intentionally done.

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Example 3.10 Camillo Zanotti, *Madrigalia tam italica*, “Guidava il biondo Apollo” (1590)

Continued
Example 3.10 Continued

Continued
Example 3.10 Continued
Example 3.10 Continued

Continued

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Piece fourteen, “Ceu verno rosaei,” is another mysterious astrological text written by an anonymous author. It is divided into two parts, and again glorifies the rose, the flower of the Rožmberk family. I have found no other discussion of this piece in musicological literature, other than a recopying of the text in Lindell’s aforementioned article, but it provides a curious example of a text with overt astrological and astronomical references that would have granted Zanotti a clear opportunity to incorporate musical/astrological theory. The text and translation are given below. In

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101 Lindell, “Camillo Zanotti’s Madrigali tam Italica quam Latina (1590) as Rudolfine State Art,” 199.
instances where the text is unclear, because there are numerous references to planets and zodiac signs, I chose an astrological interpretation.

Ceu verno rosei splendent sub tempore flores, et variis recreant lumina nostra modis, sic tua per geminos virtus praeclara triones undique ab Herciniis lucet amena jugis. O Rosabergia cae salve flos inclite gentis, Ursinae salve gloria magna Domus.

Secunda pars.
Te Duce Boemiacis Paestana rosaria terris cedunt, perpetuas dat tibi bruma rosas. Ex re nomen habes constantis ad Omnia Petrae, Hoc decret illustrem pectus habere virum, Mercurius studias, Mars armis, Jupiter auro, te beat & placidae frontis honore Venus. Ergo age clara meis faveas concentibus Heros, sic tibi fortun et sydera cuncta Deus, sydera cuncta Deus.

[Watch the bright flower in the spring time, And refresh my eyes in various ways, Triones [Ursa Major] shines bright with the power of twins [Gemini], as the Hercinias [magical bird with glowing feathers] shines constantly. Oh, the beauty of the flower of the nation, Hail heavenly Rosabergia [type of rose] Hail the great glory of the house of Ursinae [bear, as in Ursa Major].

Second Part.
The Bohemian Paestana rose yields by thy guidance, Perpetual winter gives thee roses. This is fitting to have the heart of the noble man, Mercury, by studies, Mars, by arms, Jupiter, by gold, you bless and honor Venus gently on the brow. So come, bright melodies, hero of my favor, So may fortune and all the stars of God, All the stars of God.]

The text contains two mentions of astronomical constellations and five mentions of planets or zodiac signs, if ‘geminos’ is interpreted as Gemini. The moment that stands
out the most in Zanotti’s composition is the description of three successive planets, which is set off by a brief homophonic call-and-response section between the upper and lower voices, as seen in measure 69 of my transcription. This would have provided a perfect opportunity to further support the qualities of each planet by musically indicating their role, Mercury as hypophrygian and hypate hypaton, Mars as phyrgian and hypate meson, and Jupiter as lydian and parhypate meson. There seems to be some suggestion of these modes, but it is far from conclusive. The prominent E major in “Mars armis,” for example, and the slightly less prominent F major in “Iupiter auro.” On the whole, however, it is difficult to say that Zanotti meant in any way to incorporate the traditional modes and pitches of the planets, as Mercury and Venus in the next line (hypolydian, parhypate hypaton) show little signs of their pitches. Perhaps it would have been too musically jarring to jump from one suggestion of mode to another.
Example 3.11 Camillo Zanotti, *Madrigalia tam italica*, “Ceu verno rosaei” (1590)

Continued
Example 3.11 Continued
Example 3.11 Continued

Secunda Pars

Continued
Example 3.11 Continued
Example 3.11 Continued

Continued
Example 3.11 Continued

us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-
us. Ergo age clar- me-is fa-ve-

as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros, sic ti-bi for-tun et sy-
as con-cen-ti-bus He-ros,
as con-cen-ti-bus He-ros,
Example 3.11 Continued
One other publication by Zanotti deserves mention, because it includes a genre rarely utilized at Rudolf’s court and it has not been discussed in musicological literature or transcribed into modern notation. *Il terzo libro de madrigali con alcune villotte a cinque voci* was published in 1589 in Venice for five voices, three of which are extant. The first eight pieces are traditional madrigals with Italian text, and the following thirteen pieces are titled “Villotte.” The *Villotta* began as a type of popular music centered first around Venice and Padua in the early sixteenth century and later spreader throughout Italy. The texts often contained one or more stanzas and were rustic in quality. Popular song texts were sometimes included, as well as a series of nonsense syllables called

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*ilolela.* Sexual and crude language were sometimes incorporated, further enhancing the folk-like quality. Musical textures were mostly chordal, with some points of imitation, and often featured a section in triple time.

Zanotti’s set, written long after the genre first became popular, contains few of these elements in the pieces I was able to examine. The only other composer in Rudolf’s circle to publish a work with a similar title was Jacobus Regnart, who twice published works of German songs that included in the title “Nach art der Neapolitanen oder Welschen Villanellen.” The *Villanella* began in Naples and was at times used interchangeably with the *Villotta.* Regnart’s works, from 1574 and 1579, were widely popular and perhaps Zanotti wished to also capitalize on the taste for folk-inspired music. He could also have sought to demonstrate his Italian heritage as his probable hometown, Cesena, lies nearby to the south of Venice and Padua. Example 3.12 is my transcription of the three extant voices of the twenty-first piece of *Il terzo libro de madrigali con alcune villotte a cinque voci.*
Example 3.12 Camillo Zanotti, *Il terzo libro de madrigali con alcune villotte a cinque voci*, “Fiamma son fatto” (1589)

Continued
Example 3.12 Continued

Continued
Example 3.11 Continued

ghiaccio, Ne - mi spen - gò mi sfac -

ghiaccio, Ne - mi spen - gò mi sfac -

ghiaccio, Ne - mi spen - gò mi sfac -

ghiaccio, Ne - mi spen - gò mi sfac -

cio, co - si mer - ce d'am - or, lie - to e bea - to lie -
cio, co - si mer - ce d'am - or, lie - to e bea - to lie -
cio, co - si mer - ce d'am - or, lie - to e bea - to lie -
cio, co - si mer - ce d'am - or, lie - to e bea - to lie -

cio, co - si mer - ce d'am - or, lie - to e bea - to lie -

Continued
Philippe Schöndorff, 1558 – 1617, under Rudolf, c1587-1612

Little is known about Schöndorff, who was of Flemish birth and served as a trumpeter, singer, and composer for Rudolf. In February 1587 Schöndorff petitioned for money in return for a mass dedicated to Rudolf, for which he received 17 guilders, though it is unclear for which mass the payment was made.\(^{103}\) He is later listed in the imperial records in 1588 as serving as a music teacher, and on February 1, 1590 he was hired as a trumpeter on the referral of Jacob Chimarcheus, chaplain and later imperial almoner.\(^{104}\) Schöndorff is also on record as having attended the imperial parliament as part of the musical entourage accompanying Rudolf to Regensburg in 1594 that was discussed in Chapter 1.\(^{105}\)

Schöndorff is probably best known as the editor of *Odae suavissimae*, a collection of secular pieces by a diverse group of composers dedicated to Jacob Chimarcheus, Rudolf’s imperial almoner and himself an accomplished musician, for his sixtieth birthday.\(^{106}\) The set, which has survived incomplete, includes a portrait of Chimarcheus dated 1601, and was therefore likely published in 1601 or 1602, rather than 1610 as is recorded in RISM.\(^{107}\) *Odae suavissimae* included works by numerous composers who either worked for Rudolf in Prague or were somehow closely related to the court, including Schöndorff himself, Monte, Regnart, Luython, Zanotti, Matthias de Sayve,

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103 Albert Smijers, “Die kaiserliche Hofmusik-Kappel in Wein von 1543-1619,” 68.
104 Comberiati, *Late Renaissance Music at the Habsburg Court*, 101.
105 Ibid., 54f.
106 For more on Chimarcheus, see Klaus Wolfgang Niemöller, “Jacob Chimarrhaeus Ein Kölner Musiker am Habsburger Hof Rudolfs II. In Prag,” in *De Musik der Deutschen im Osten und ihre Wechselwirkung mit den Nachbarn* (Bonn: Gudrun Schroeder Verlag, 1994), 359-74; Comberiati, *Late Renaissance Music at the Habsburg Court*, 15-18; see also Lindell, “Music and Patronage at the Court of Rudolf II,” 261.
107 Comberiati, 102.
Neriti, Furter, Vincentini, Galeno, Gallus/Handl, Zanchi, Sales, Orologio, Ardesi, de la Court, Zigotta, Felis, Rudolf Lasso, Cornazani, Biffi, and Hans Leo Hassler.

Few of Schöndorff’s works have survived and there is no entry on him in RISM, the *New Grove Dictionary of Music and Musicians*, or *Die Musik in Geschichte und Gegenwart*. Fortunately, two of his mass settings were recently published by the Clavis Monumentorum Musicorum Regnie Bohemiae in a critical edition of the *Kutnohorský kodex* (Codex Kuttenbergensis), a compilation of mass manuscripts that was almost certainly used at Rudolf’s court and which is now held by the National Museum in Prague.\(^\text{108}\) The Codex was likely compiled in the mid-1590s, implying that the aforementioned payment from Rudolf was for one of these masses. One of the mass settings, *Missa super La dolce Vista* is a parody mass based on a madrigal by Monte, while *Missa super Usquequo Domine* is based on Monte’s motet “Usquequo Domine oblivisceris me.” Schöndorff’s masses are both for six voices, and demonstrate a high skill level. There is imitation present, usually two points per set, which are thoroughly integrated into the polyphonic material. The models are treated freely, and in each successive mass section they are less obvious in the opening bars. Because the aforementioned publication is unfortunately difficult to acquire, I have reproduced below the opening Kyrie from *Missa super Usquequo Domine*.

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Example 3.13 Philippe Schöndorff, Missa super Usqueuoquo Domine, “Kyrie” (c1595)

Continued
Example 3.13 Continued
Example 3.13 Continued
Example 3.13 Continued
Example 3.13 Continued

Mathias de Sayve, 1540/50 – 1619, under Rudolf, 1590-1612

The name Sayve is probably most familiar to musicologists due to the work of Mathias’s younger brother, Lambert de Sayve, who published several polychoral pieces for the Habsburgs, primarily in Graz, Melk, and Vienna, than for Mathias de Sayve, who had a much less prolific career as a composer. Mathias came to Prague via Liège, where he had served as second succentor at the collegiate church of St Martin-en-Mont from July 1571 until at least 1588. Records indicate that on January 1, 1590 he was in Prague performing as an alto in Rudolf’s chapel.109 By 1593 he had been appointed vice

choirmaster under Monte. In a petition to Rudolf dated March 13, 1604, Sayve calls himself a “Vice Capellmaister,” though it is unclear how long he held that position, or if he still held it at the time of the letter. Comberiati, through an examination of imperial payment records, speculates that he might have held the position beginning in 1591, then stepped aside for Regnart to assume the role from January 1598 until after October 1599, then reassumed the position until April 1603, when Orologio took over duties.\(^{110}\) When Rudolf died in 1612 Sayve was one of only five musicians who were retained by the new emperor Matthias. Sayve left behind few publications, which include a book of five-voice motets published in Prague in 1595 (only two voices are extant), two odes in the aforementioned *Odae suavissimae* dedicated to imperial almoner Jacob Chimarcheus, and a motet in the collected *Rosetum Marianum*, which also includes works by several of Rudolf’s other composers including Luython, Harant, and Regnart.\(^{111}\) From these few pieces Sayve seems to have written in a reserved, conventional manner reminiscent of Monte’s more conservative style.

\*Giovanni Battista Galeno [Galleno], 1550/55 – after 1626, under Rudolf 1595-1612*

Galeno was a composer and singer born in Udine in northern Italy, who was active primarily in central Europe. His first position was probably as a chorister in the court chapel of Archduke Karl II in Graz, where there are records of him performing as an alto in 1572.\(^{112}\) From 1573 until 1583 he was the domestic chaplain of the cathedral at

\(^{110}\) Comberiati, 21ff.
\(^{111}\) RRMR xxiv–xxv, 1977
Aquileia, where he was also ordained into the priesthood in 1575. He then served in Graz from 1584 until 1590 as a court chaplain. In 1591 he relocated to Munich to serve the Bavarian court chapel as an alto and chaplain. In 1594 he likely was a court chaplain to Archduke Ernst, Regent of the Netherlands. Galeno’s *Primo libro de madrigali a cinque voci* was dedicated to Ernst in 1594. Following Ernst’s death, Galeno became court chaplain and alto at the chapel in Prague under Rudolf. Galeno’s next publication, *Primo libro de madrigali a sette voci*, was dedicated to Rudolf in 1598. Galeno remained in Prague until the Emperor’s death in 1612 except for a short stint, October 1597 to May 1598, during which he served in his hometown Udine as maestro di cappella of the Cathedral. It is unknown where Galeno worked after leaving Prague as there are no subsequent records. There is, however, a reference in the Prague records from 1626 relating to his employment under Rudolf that suggests he was still alive.¹¹³

Only four volumes by Galeno have survived, although there are no records of any pieces having been published that are not currently extant. Two are the aforementioned collections of madrigals for five and seven voices. The later set is unusual in that it is one of only a few publications stemming from Rudolf’s composers to be entirely for seven voices. Monte had published a collection of sacred madrigals for six and seven voices in 1589, and would later publish two sets for seven voices in 1599 and 1600. Jacobus Handl’s vast collections of motets included some for seven voices, and Luython published a seven-voice mass in 1608 in his *Liber Primus Missarum*, which will be discussed in Chapter 4. Other extant works by Galeno are a six-voice litany to the Virgin

¹¹³ Federhofer, “Galeno, Giovanni Battista.”
and an ode “Musa percor facilis” for six voices included in *Odae suavissimae*, edited by Philipp Schöndorff and published in 1601 or 1602.

Three of Galeno’s madrigals have been edited in modern notation (I have as yet been unable to acquire copies of the original sources or visit the archives where they are housed).\(^{114}\) They display signs of pastoral Italian madrigals, as well as, Hellmut Federhofer claims, the influence of the *canzonetta*.\(^{115}\) The voices are woven in imitative polyphony, with individual musical motives taking inspiration from the text. The madrigals are harmonically conservative and display limited chromaticism. He incorporated opposing groups of voices less frequently than some of his fellow composers in Prague, particularly Luython and Zanotti, though the technique does appear more frequently in his seven-voice works.

*Liberale Zanchi, c1570 – after 1621, under Rudolf, 1596-1612*

Of Italian birth, Zanchi was recorded as the Kapellmeister and organist in 1595 and 1596 under the Archbishop of Salzburg.\(^{116}\) On November 1, 1596 he began to serve Rudolf II in Prague as a chamber organist, where he worked until the Emperor’s death. While in Prague he published five extant works, three of which were sacred compositions, one of which was a book of madrigals, and one instrumental work. Only

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\(^{114}\) Two in I in DTÖ, xc, 1954; and one in RRMR, 80f, 1990.

\(^{115}\) Federhofer, “Galeno, Giovanni Battista.”

one survives intact, *Il primo libro de madrigali a cinque voci* of 1595. A sixth publication, his second book of madrigals, is no longer extant. His vocal work reveals the influence of the *cori spezzati* technique, music written for separate choirs. In this he may have been influenced by Jacobus Handl and Camillo Zanotti, both of whom wrote for separate choirs as has been discussed.

Zanchi’s only work dedicated to Rudolf was *Sacrae cantiones senis, septenis, octonis, & duodenis vocibus concinendae* from 1598. The work was published in Venice and, as the title says, contains pieces for six, seven, eight, and twelve voices. The eight and twelve voice works are examples of *cori spezzati*, written for two and three choirs respectively. Only some of the voices are extant, and are currently held in the Stadt-und-Universitätsbibliothek in Frankfurt. The following chart gives the contents of the publication, as well as which voices are still available.
Table 3.5 Contents of Liberale Zanchi’s *Sacrae cantiones senis, septenis, octonis, & duodenis vocibus concinendae* (1598)

<table>
<thead>
<tr>
<th>6 Voices</th>
<th>Extant Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>O Altiudo diuitiarum</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Deus misereatur</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Angelus Domini</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Hodie Christus natus est</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Surrexit Pastor bonus</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Exaudi Domine</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7 Voices</th>
<th>Extant Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnum haereditatis</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>In te Domine sperami</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Ascendo ad patrem</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Puer qui natus est</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
<tr>
<td>Laets florensque dies</td>
<td>Cantus 1, Quintus, Tenor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8 Voices</th>
<th>Extant Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>O quam suanis</td>
<td>Cantus 1, Cantus 2, Bassus 2, Tenor 2</td>
</tr>
<tr>
<td>Domine exaudi</td>
<td>Cantus 1, Cantus 2, Bassus 2, Tenor 2</td>
</tr>
<tr>
<td>Benedicam Domino</td>
<td>Cantus 1, Cantus 2, Bassus 2, Tenor 2</td>
</tr>
<tr>
<td>Exaltubo ob Domine</td>
<td>Cantus 1, Cantus 2, Bassus 2, Tenor 2</td>
</tr>
<tr>
<td>Kyrie</td>
<td>Cantus 1, Cantus 2, Bassus 2, Tenor 2</td>
</tr>
<tr>
<td>Christe</td>
<td>Cantus 1, Cantus 2, Bassus 2, Tenor 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12 Voices</th>
<th>Extant Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyrie C1 B3 T3 C2 A2 T2 B2</td>
<td>Cantus 1, Cantus 2, Altus 2, Tenor 2, Bassus 2, Tenor 3, Bassus 3</td>
</tr>
<tr>
<td>Sanctus C1 B3 T3 C2 A2 T2 B2</td>
<td>Cantus 1, Cantus 2, Altus 2, Tenor 2, Bassus 2, Tenor 3, Bassus 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Extant Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnificat</td>
<td>Cantus 1, Altus 1</td>
</tr>
<tr>
<td>Et exultauit</td>
<td>Cantus 3, Tenor 3, Bassus 3</td>
</tr>
</tbody>
</table>

Zanchi published a similar set of polychoral sacred songs in 1602 dedicated to Pope Clemens VIII, currently held in Italy, and another in Prague for up to sixteen voices in 1604. Neither of these sets are complete. That half of Zanchi’s publications include works for at least twelve voices reveals the importance of the *cori spezzati* technique.
Below is my transcription from *Sacrae cantiones senis, septenis, octonis, & duodenis vocibus concinendae* of the eight-voice Kyrie and Christe and twelve-voice Kyrie. The extant voices, four for the eight-voice works and seven of the twelve-voice, suggest the grandeur that these pieces would have had when performed with all parts. They all employ a call-and-response style between the different choirs for roughly the first two-thirds of each piece, followed by an ending of all the voices singing together. The ending of the twelve-voice Kyrie in particular, which features melodic motives passed among the three choirs in succession, suggests Zanchi’s mastery of *cori spezzati*. 
Example 3.14 Liberale Zanchi, *Sacrae cantiones senis, septenis, octonis, & duodenis vocibus concinendae*, “Kyrie” (1598)

Continued
Example 3.14 Continued

Continued
Example 3.14 Continued

Continued

267
Example 3.14 Continued
Example 3.14 Continued

Continued
Example 3.14 Continued
Example 3.14 Continued

Continued
Example 3.14 Continued
Example 3.14 Continued
Example 3.14 Continued
Example 3.14 Continued
Example 3.14 Continued
Example 3.14 Continued

Continued
Example 3.14 Continued
Example 3.14 Continued

Continued
Example 3.14 Continued
Conclusion

This chapter has provided a summary of each composer who worked in Prague before 1600 for whom there is an extant publication, and, where possible, an example of his work. The influence of Philippe de Monte is seen in nearly every composer studied, as the principal elements of his “lighter style” are prevalent. Mensuration is often in cut time, the number of voices in a composition slowly increases, harmonic material is usually clear, homophonic passages are prominent, the melody begins to shift to the upper voices, and there were often great measures taken to express the meaning of the text. There are some exceptions, such as the Lieder of Jacobus Regnart and the Villotta of Camillo Zanotti, but overall composers in Prague followed closely after the master.

We have also seen some instances in this chapter of the possible influence of hermetic theories on compositional style and the composers themselves. According to the poetry of Elizabeth Jane Weston, Monte likely had a close personal relationship with her step-father, spirit-medium and alchemist Edward Kelley. Monte’s home was also a common meeting place for the intellectual elite of Prague and travelling dignitaries. His music likewise shows some signs of hermetic influence, such as a pronounced favoring of mixolydian mode during the mid-1580s, perhaps as a cure for Rudolf II’s melancholy, and possible attempts to use the correct chords to musically represent the planets according to hermetic tradition. The music of Zanotti also reveals a knowledge of the planet/chord designations in pieces written to glorify Rudolf II and for important patrons in Prague. Across the works of several composers there was moreover an apparent preference for mystical texts. These topics are further explored in Chapter 4, as well as
in-depth case studies of two compositions by Carolus Luython that I contend most clearly reveal the influence of hermeticism.
Chapter 4

Music in Prague after 1600: Flowering of the Hermetic Style

Far less music has survived from Rudolf’s court from the years after 1600 than during the first two decades of his reign. There are several reasons for this situation: first, many of the most well-known and prolific composers died either before 1600 or shortly thereafter, including Philippe de Monte (1603), Jacobus Regnart (1599), and Camillo Zanotti (1591); second, Rudolf’s increased melancholic isolation caused him to be less present at official and liturgical events that might have called for the composition of new music; and third, due in part to his isolation Rudolf did little to mitigate the results of his celebrated composers dying by pursuing replacements. The few composers to arrive or begin work after 1600 were far less well-known than their predecessors, including Jakob Hassler, who was less renowned and prolific than his brother Leo, and Kryštof Harant z Polžic a Bezdružic, who was known primarily in Bohemian speaking communities. The composers whose works were largely written after 1600, with dates listed that they served under Rudolf, are as follows:

- Carolus Luython 1576-1612
- Nicolaus Zangius 1602-1605, 1610-1612
- Liberale Zanchi 1596-1612
- Jakob Hassler 1602-1612
- Kryštof Harant z Polžic a Bezdružic 1598-1612
Extant works from Rudolf’s court published after 1600 are given in Table 4.1 below. Some of the works listed, such as some of the masses in Luython’s Liber Primus Missarum, were almost certainly written before 1600, and likely in the 1580s.¹ They are included here because they were not published until 1608. At least one of the masses from the set, Missa super basim: Caesar vive was likely written specifically for this publication, and therefore in 1607 or 1608. Nicolaus Zangius is another prolific composer active after 1600, penning several sacred and secular compilations, as well as individual pieces dedicated to wealthy patrons in Prague. Liberale Zanchi’s works from after 1600 are listed below, but as no complete compositions have survived from this period, I do not review any more works than were discussed in Chapter 3.

¹ Carmelo Comberiati, Late Renaissance Music at the Habsburg Court, 66-77.
<table>
<thead>
<tr>
<th>Composition</th>
<th>Year</th>
<th>Parts</th>
<th>Publication City</th>
<th>Modern Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carolus Luython</td>
<td>1603</td>
<td>6</td>
<td>Prague</td>
<td>CS-Pnm (6), D-BAUk (S,B,6), Fbo(kpl)</td>
</tr>
<tr>
<td>Selectissimarum sacrarum cantionum sex vocibus compositarum, nunc primum in lucem aeditarum: fasciculus primus.</td>
<td>1604</td>
<td>6</td>
<td>Prague</td>
<td>CS-Pnm (6), D-Rp (kpl), D-BAUk (S,B,6), PL-LEtpm (A), Wn (5) - Also in D-Fbo</td>
</tr>
<tr>
<td>Opus musicum. . . in lamentationes Heiremiae prophetae</td>
<td>1609</td>
<td>Prague</td>
<td>Portion Transcribed Below</td>
<td>A-Wn, CS-Pu, D-As, Bhm, Hs, Rtt</td>
</tr>
<tr>
<td>Liber primus Missarum</td>
<td></td>
<td></td>
<td>Prague</td>
<td></td>
</tr>
<tr>
<td>Super basim: Caesar Vive</td>
<td></td>
<td></td>
<td>Prague</td>
<td></td>
</tr>
<tr>
<td>Super Filae Hierusalem</td>
<td></td>
<td></td>
<td>Prague</td>
<td></td>
</tr>
<tr>
<td>Super Amorosi pensieri</td>
<td></td>
<td></td>
<td>Prague</td>
<td></td>
</tr>
<tr>
<td>Quodlibetica</td>
<td></td>
<td></td>
<td>Prague</td>
<td></td>
</tr>
<tr>
<td>Ne timeas Maria</td>
<td>1609</td>
<td>6</td>
<td>Prague</td>
<td>Commer, <em>Musica Sacra</em>, v 19, 24-42</td>
</tr>
<tr>
<td>Tirsi morir volea</td>
<td>1609</td>
<td>5</td>
<td>Prague</td>
<td>Commer, <em>Musica Sacra</em>, v 13, 59-71</td>
</tr>
<tr>
<td>Quodlibetica</td>
<td>1609</td>
<td>4</td>
<td>Prague</td>
<td>Commer, <em>Musica Sacra</em>, v 17, 76-85</td>
</tr>
<tr>
<td>Ad aequales (quodlibet)</td>
<td></td>
<td></td>
<td>Prague</td>
<td></td>
</tr>
<tr>
<td>Table 4.1 Continued</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Quodlibetica</strong></td>
<td>3</td>
<td>Prague</td>
<td>Commers, <em>Musica Sacra</em>, v 13, 72-80</td>
<td></td>
</tr>
<tr>
<td><strong>Domine Jesu Christe (motet)</strong></td>
<td>1618</td>
<td>6</td>
<td></td>
<td>A-Wn</td>
</tr>
<tr>
<td><strong>Nikolaus Zangius</strong></td>
<td>1594</td>
<td>3</td>
<td>Frankfurt</td>
<td>D-LEm, PL-Wu, D-Gs (1617, kpl)</td>
</tr>
<tr>
<td>Schöne Neue Auszerlesene Geistliche und Weltliche Lieder...</td>
<td>1597</td>
<td>5</td>
<td>Cologne</td>
<td>D-Gs, PL-LEtpn(A), Wn(5)</td>
</tr>
<tr>
<td>Etliche Schöne Teutsche Geistliche unnd Weltliche Lieder</td>
<td>1602</td>
<td>6-8</td>
<td>Bautzen</td>
<td>1 motet ed. F. Kessler, D-DI; GB lbl</td>
</tr>
<tr>
<td>Harmonia votiva pro felici fato</td>
<td>1603</td>
<td>4</td>
<td>Cologne</td>
<td>GB-Lbl</td>
</tr>
<tr>
<td>Kurtz weilige Neue Teusche Weltliche Lieder mit vier Stimmen componirt</td>
<td>1606</td>
<td>6</td>
<td>Breslau</td>
<td>Transcribed below PL-WRu</td>
</tr>
<tr>
<td>Nobili eximio...viro, Dn. Georg. Sebisch...vota secunda concentu musico pro honorario nuptiarum</td>
<td>1609</td>
<td>7-8</td>
<td>Breslau</td>
<td>PL-WRu</td>
</tr>
<tr>
<td>Epithalamia in honorem nuptiarum Dn. Hyneck</td>
<td>1609</td>
<td>6</td>
<td>Prague</td>
<td>Portion Transcribed below CS-Pu, D-Bhm</td>
</tr>
<tr>
<td>Magnificat anima mea dominum, secunditoni</td>
<td>1611</td>
<td>3</td>
<td>Vienna</td>
<td>DTÖ 87 PL-WRu (3), D-Gs (kpl 1617), D-Hs (kpl 1621)</td>
</tr>
<tr>
<td>Ander Theil Deutscher Lieder mit drey Stimmen</td>
<td>1611</td>
<td>3</td>
<td>Vienna</td>
<td>DTÖ 87 PL-WRu (3), D-Gs (kpl 1617), D-Hs (kpl 1621)</td>
</tr>
<tr>
<td>Andreae Bodenstien...cum virgene...Susanna</td>
<td>1611</td>
<td>3</td>
<td>Breslau</td>
<td>D-Di, EIl, UDa</td>
</tr>
</tbody>
</table>

Continued
<table>
<thead>
<tr>
<th>Table 4.1 Continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantiones sacrae (qua vulgo motetas vocant) quae tam viva voce...</td>
</tr>
<tr>
<td>Dritter Theil Neuer Deutschen Weltlichen Lieder mit Dery Stimmen</td>
</tr>
<tr>
<td>Lustige Neue Deutsche Weltliche Lieder und Quodlibeten...</td>
</tr>
</tbody>
</table>

**Liberale Zanchi**

| Sacrarum cantionum quae senis...liber secundus | 1602 | 6-12 | Venice | I Bc (no S) |
| Cantiones a 4 e 8vv per ogni sorte d'instrumenti | 1603 | 4-8 | Prague |
| Il terzo libro de madrigali a cinque voci | 1603 | 5 | Venice | D-Rtt (S) |
| Quinq; psalmorum, in Vesperis concinendorum, octonis... | 1604 | 8-16 | Prague | D-Rp (A1, T1-3, B2) H-Bn (A1, T1, S2, B2) |

**Jakob Hassler**

| Madrigali | 1600 | 6 | Nuremberg |
| Magnificat 8 tonorum, 4vv, cum missa, 6 vv, et psalmo li, 8vv | 1601 | 4,6,8 | Nuremberg | D-HS, KI (S,T), DI (A,B), KMs (S,T,B), NA, F-Pc (S), Sg (no A), GB-Lbm (S, A,T,B), PL-GD (no A), Wu (S,A) |

*Continued*
<table>
<thead>
<tr>
<th>Table 4.1 Continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various keyboard works</td>
</tr>
</tbody>
</table>

**Kryštof Harant z Polžíč a Bezduříč**

<table>
<thead>
<tr>
<th>Work</th>
<th>Year</th>
<th>City</th>
<th>Composer</th>
<th>Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qui confidunt in Domino</td>
<td>1598</td>
<td>Prague</td>
<td>Kryštof Harant z Polžíč a Bezduříč</td>
<td>CZ-Pnm</td>
</tr>
<tr>
<td>Maria Kron</td>
<td>1604</td>
<td>Prague</td>
<td>Kryštof Harant z Polžíč a Bezduříč</td>
<td>CZ-Pnm</td>
</tr>
<tr>
<td>Missa quinis vocibus super Dolorosi martyr</td>
<td>1602</td>
<td>Prague</td>
<td>Kryštof Harant z Polžíč a Bezduříč</td>
<td>CZ-Pnm</td>
</tr>
</tbody>
</table>

---

**Nicolaus Zangius, 1570-1619, under Rudolf, 1602-1605, 1610-1612**

Zangius was of German birth and split time during his career as a composer, Kapellmeister, and court official.\(^2\) The earliest records of Zangius are from 1597, when he was a Kapellmeister at Iburg for Prince-Bishop Philipp Sigismund of Brunswick-Wolfenbüttel.\(^3\) In 1599 he served in Danzig as a deputy to the Kapellmeister, Johannes

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\(^2\) The most thorough biography of Zangius is the introductory material to the collection of his music in DTÖ, Nicolaus Zangius, *Geistliche und Weltliche Gesänge*, ed. Hans Sachs (Vienna: Denkmäler der Tonkunst in Österreich, vol. 87, 1951).  
\(^3\) Ibid., VI.
Wanning, whom Zangius soon succeeded. In 1602 Zangius received an extended leave of absence from Danzig because of an outbreak of the plague, and traveled to Prague where he served as an imperial official.\(^4\) He briefly traveled back to Danzig, but soon returned to Prague where he resumed his court duties.\(^5\) After Rudolf’s death he moved to Berlin where he worked as a Kapellmeister to the Elector of Brandenburg.

Zangius is known for both his secular and sacred output, of which a sizable number of compositions are extant. His works bridge a gap between the traditional polyphonic style and a modern incorporation of the Italian villanella.\(^6\) He also may have been influenced by former Prague composer Jacobus Regnart, as Zangius published several popular sets of German Lied for three and five voices.\(^7\) The 87\(^{th}\) volume of the DTÖ contains two sets by him, one sacred and one secular: *Cantiones sacrae sex vocum* (1612), and *Ander Theil Deutscher Lieder mit Drey Stimmen* (1611). Despite his modest success, other than the sets in DTÖ, two motets edited by Franz Kessler, and the compositions I have transcribed below, his work remains unavailable and almost unknown in modern scholarship and performance.\(^8\)

I have provided my transcriptions of two compositions currently unavailable in modern publication. First, Example 4.1a, is an excerpt from *Magnificat Anima Mea Dominum seconi Toni a sex vocibus*. The set was published in Prague in 1609 by Nicolaus Strass. The title page, shown in Figure 4.1, depicts various figures marked with

\(^{4}\) Ibid., VII-VIII.
\(^{5}\) Sachs reviews payment records in Zangius’s name from 1604 to 1610, IX.
\(^{7}\) Zangius, XIV.
six virtues: victory, glory, justice, charity, faith, and hope. Mary is shown at the top center, wearing a crown of twelve stars. To her left stands Saint Wenceslaus, Duke of Bohemia from 921 until 935, holding his shield with the black eagle.

The *Magnificat* is divided into six sections, four for six voices, and two for four voices. In each section Zangius appears to have concentrated on a particular compositional element. In the fourth section, “Esurientes impleuit bonis,” for example, the four voices employ frequent repetitive scalar patterns in upward and downward motion. In the fifth section, “Sicut locutus est,” the phrase “Abraham et femini” is repeated a total of twenty-eight times by the different voices, a technique which was not used anywhere near to that extent in the rest of the *Magnificat*. In the second section, “Quia fecuit,” which is transcribed below, Zangius uses a melismatic motive multiple times in fusa, and then in minima in the alto (see measures 9-11 in Example 4.1). The aural effect is that the piece slows down to half speed before the pattern reappears in measure twenty.
Figure 4.1 Nicolaus Zangius, Magnificat Anima Mea Dominum, Title Page (1609)
Example 4.1 “Quia fecit” from Zangius, *Magnificat Anima Mea Dominum secondi Toni a sex vocibus*, 1609.

Continued
Example 4.1 Continued
Example 4.1 Continued

Example 4.2 is my transcription of “Nobili Exmo. . . Dn. Georgio Sebisch” from the Biblioteka Uniwersytecka we Wrocławiu, and serves as an example of Zangius’s secular style. According to the title page information, the piece was written in honor of the wedding between Georgio Sebisch and Susanna Geiger, which took place on October 17, 1606. I have been unable to find any information on the couple, but they were likely wealthy patrons who commissioned Zangius for the work. The work is set for six voices in the unusual arrangement of one cantus, one altus, one bassus, and three tenors. The text is taken from the fourth chapter of the Song of Solomon, fitting for a wedding celebration. Musically it is more characteristically polyphonic than the somewhat experimental techniques heard in the Magnificat. There are interesting harmonic shifts, however, highlighted by three descending half steps in the cantus in measure 61 of the
transcription, and measure 81 in the altus. Both descend e-flat – d – c sharp. The harmony underlying the first example is cm – dm – A, and under the second is cm – G – A. Overall, Zangius creates compelling aural shifts from minor to major tonalities, decorated with brief imitative passages, and a slow rhythmic churning to the climax of the piece.

Example 4.2 Nicolaus Zangius, “Nobili Exmo... Dn. Georgio Sebisch” (1606)
Example 4.2 Continued
Example 4.2 Continued
Example 4.2 Continued

\[\text{Continued}\]
Example 4.2 Continued

Continued
The youngest son of Isaak Hassler, Jakob never attained the fame of his brother and fellow Habsburgian composer Hans Leo Hassler. Born in Nuremberg in 1569, in
1585 Jakob traveled to Augsburg where he served as an apprentice in the town band. In 1590 he spent a year studying in Italy, where he likely worked alongside his brother under Giovanni Gabrieli. After returning to Augsburg to serve as an organist, he later moved to Hechingen, where he again worked as a court organist. He then applied for a position as director of the Stadtpfeiffer in Augsburg in succession of his brother, but he did not earn the post. He was soon, however, appointed as a court organist in Prague under Rudolf, a position he held until the Emperor’s death. He was highly esteemed by the Emperor as evidenced by his subsequent elevations of rank, his exemptions from taxation, and that Rudolf himself acted as godfather to one of his sons.

Jakob left a handful of vocal compositions, few of which remain intact. These include a collection of Italian madrigals, a Magnificat, a mass, and a few motets. Also extant are seven works for organ, five of which were published in an edition in the Diletto Musicale series in 1978. Among the organ works are three ricercares, a three subject Fuga, a canzone, and a toccata. They are all written for four voices, though a fifth is at times added on final chords. The writing is highly imitative and linear, especially the “Fuga septimi toni.” Also evident is occasional chordal, two-part writing, most clearly heard in the “Fantasia noni toni.”

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9 Jakob Hassler, Orgelwerke, ed. Hartmut Krones (Vienna: Verlag Doblinger, 1978), introductory material.
11 Two of Jakob’s organ works also appear in Vol 2. (1903) of the Denkmäler der Tonkunst in Bayern (ed. Ernst von Werra). Both of these were reedited in the Diletto Musicale 1978 edition.
Kryštof Harant z Polžic a Bezduřic, 1564-1621, under Rudolf, 1598-1612

Harant was not as well-known as most of Rudolf’s composers, but he was more traveled and provides an interesting connection to the Holy Land.12 He was a member of the lower Czech nobility and was both a composer and author. He received his education in Innsbruck at the court of Archduke Ferdinand II, and returned to Bohemia in 1584 upon the death of their Father to take over management with his brother of the family estate. He then served in the military, fighting in the Turkish wars from 1593 to 1597. Afterwards he went on a pilgrimage with the knight Heřman Černín z Chudenic to the Holy Land and Egypt. His experiences were published in 1598, along with a six-part motet *Qui confidunt in Domino*. Upon his return he began service as a valet to Rudolf, and was later ennobled in 1603. After Rudolf’s death he continued to serve as a valet under Matthias until 1615, when he was released from the court. In 1619 he was a leader of the Czech artillery in the rebellion of the Czech Estates and ordered a bombing of the imperial palace in Vienna while Ferdinand II was inside. After the fighting he was named a chamber adviser and president of the Czech chamber by Elector Palatine Friedrich V. He was later arrested for his part in the uprising against the empire and was beheaded in the Old Town square of Prague on June 21, 1621.

Honisch provides a lengthy discussion of Harant’s account from the Holy Land and his accompanying motet *Qui confidunt in Domino*, so it is not necessary to discuss it.

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in detail here.\textsuperscript{13} As Honisch describes, Harant seems to have encountered music wherever he went. He complained about the Arab music he heard in Egypt, and while in Jerusalem he encountered a singing monk who had once been under the employ of Archduke Charles at Graz.\textsuperscript{14} Later he listened to a group of monks in Jerusalem singing polyphony for four and five parts, and the music so stirred him that he set his own version of the text, Psalm 125 (124), the aforementioned \textit{Qui confidunt in Domino}. The motet is the opening piece in Harant’s \textit{Opera Omnia}, published by Státní Hudební Vydavatelství in 1966. Harant’s other extant works, which include a mass setting for five voices, two motets, and a few fragments, are all reminiscent of the conservative yet stately style of Monte. Points of imitation are woven into a rich polyphony, which often move to homophonic sections at important textual moments. Florid melismatic writing also appears, especially in \textit{Qui confidunt in Domino} and in the Kyrie of \textit{Missa quinis vocibus super dolorosa martyr}.

\textit{Carolus Luython: Two Extended Case-Studies}

Both published in the first decade of the seventeenth century, two compositions by Carolus Luython demonstrate the most thorough incorporation of hermetic doctrine of extant works from Prague. While we have examined several pieces that seem to integrate specific mystical elements, such as the deliberate usage of pitches to correspond to particular planets, these works by Luython appear to have been thoroughly influenced by hermetic doctrine from small elements such as pitch selection, to large-scale features like

\textsuperscript{13} Honisch, 236-42.
\textsuperscript{14} Ibid., 238.
form and structure. The works are *Lamentationes Hieremiae prophetae* from 1604, and *Missa super basim: Caesar vive*, from *Liber Primus Missarum* published in 1609. It is my contention that these two pieces reveal a familiar knowledge of hermetic theory on the part of Luython, and moreover that this familiarity influenced his compositional style.

The text of the *Lamentationes* was taken from the *Book of Lamentations* of the Old Testament. According to both Jewish and Christian tradition the book was written by the prophet Jeremiah to mourn the destruction of Jerusalem and the Holy Temple in the 6th century BCE. Portions of the book were used as the Lesson for the first Nocturn of Matins on Maundy Thursday, Good Friday, and Holy Saturday. Since at least the fifteenth century composers have set all or portions of the text polyphonically for use in the liturgy. One of the most influential publications was a set of *Lamentationes* printed by Petrucci in 1506, containing works by numerous composers of the Josquin generation.

During the rest of the sixteenth century several French, Italian, English, Spanish, and, to a lesser extent, German composers penned their own settings of the text. At the beginning of Luython’s musical career, several important composers wrote polyphonic *Lamentationes*, including Victoria (1581), Asola (1585), Lasso (1585), and Palestrina

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(1588). Prague’s Jacobus Gallus/Handl, who was discussed in the prior chapter, also wrote a set of Lamentationes in 1587.16

Luython’s setting was published in 1604, with the full title Opus musicum. Caroli Luyton, S.[acrae] C.[aesarei] M.[aiestatis] Rudolf II. Rom.[ani] Imp.[erii] Organistae & Componistae, in Lamentationes. Hieremiae prophetae. It was published by Georgii Nigrini in Prague in six separate part-books, all of which are extant: Cantus, Quintus, Altus, Sextus, Tenor, and Bassus. Following the Lamentationes in the same publication was Benedictus Dominus Deus Israel, and a setting of Psalm 50, Miserere mei Deus, both also by Luython.

It was long established which verses of the Book of Lamentations were read during the different days of Holy Week, but composers were allowed to choose freely from among the text to select specific verses to set polyphonically. Renaissance settings of the Lamentationes vary widely in the verses chosen, and I have been able to find no other composer who set the same specific combination of verses used by Luython, shown in Table 4.2. Each verse begins with a Hebrew letter, which was customarily included in polyphonic settings, as well as an insertion of the prayer “Hierusalem, convertere ad Dominum Deum tuum” (Jerusalem, return onto the Lord thy God). The text of Luython’s setting, shown with the corresponding verses, is as follows:

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Table 4.2 Verses used in Carolus Luython’s *Lamentationes* (1604)

<table>
<thead>
<tr>
<th>Incipit lamentationes Hieremiae Prophetae</th>
<th>Hierusalem, convertere ad Dominum Deum tuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1 ALEPH. Quomodo sedet sola...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>1:2 BETH. Plorans plorat in nocte...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>1:4 DALETH. Viae Sion lugent...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>1:5 HE. Facti sunt hostes eius...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>1:11 CAPH. Omnis populus eius...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>1:12 LAMED. O vos omnes...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:40 NUN. Scrutemur vias nostras...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:41 NUN. Levemus corda nostra...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:42 NUN. Nos inique egimus...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:49 AIN. Oculus meus afflictus est...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:50 AIN. Donec respiceret et videret...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:51 AIN. Oculus meus deprædatus...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:55 COPH. Invocavi nomen tuum...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:56 COPH. Vocem meam audisti...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>3:57 COPH. Appropinquasti in die...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>4:19 COPH. Velociores fuerunt persecutores...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>4:20 RES. Spiritus oris nostri...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td></td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>4:21 SIN. Gaude et lætare...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
<tr>
<td>4:22 THAU. Completa est iniquitas...</td>
<td>Hierusalem, convertere ad Dominum Deum tuum</td>
</tr>
</tbody>
</table>

*Continued*
I contend that this particular selection of verses reveals the influence of mystical thinking, specifically the practice of cabbala. As discussed in Chapters 1 and 2, cabbala became widely popular in Rudolf’s Prague among both the Jewish and Christian population, due to relatively inviting policies toward Jewish communities as well as a general appetite for the occult. It is logical, therefore, to examine which Hebrew letters Luython chose to set polyphonically, and determine if they have any significance.

One of the most accessible elements of cabbala is Gematria, a system in which numerical values are associated with specific letters and words, usually applied to the Hebrew alphabet, with the belief that letters and words that share the same number have an unseen, mystical connection. There are several versions of Gematria, but in the most easily-applied system the traditional numerical values of each Hebrew letter in a word are added together to find a sum. Words with the same sum were seen to have a mystical connection. Repeating an example given in Chapter 1: the word Yahweh (YHVH) totals

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17 Niemöller discusses the Hebrew letters but does not consider a symbolic reasoning for the specific selections made by Luython, see “Studien zu Carl Luythons Lamentationes (Prag 1604),” 190ff.
18 Byron L. Sherwin, Mystical Theology and Social Dissent: The Life and Works of Judah Loew of Prague (Farleigh: Dickinson University Press, 1982), 125.
26, as does “Great” or “Glorify” (Kavod), “Word” (Davar), “Holy Ground” (gay hagia), and “It shall come to pass” (V’Hayah). In a slightly different method, individual digits of a large sum were added together to find a smaller number, called the integral reduced value. For example, three important phrases, “Zion will be redeemed through justice and her returnees through righteousness” (Isa. 1:27), “The commandment of God is pure, it enlightens the eyes” (Ps. 19:9), and “And counts the seed of Israel” (Num. 23:10), all total 1600, and therefore have an integral reduced value of 7, a number with its own mystical significance.²⁰

Luython’s knowledge of cabbala is demonstrated by the frequent appearance of the number twelve. There are twelve different letters used, nineteen letters set when repetitions are included, and twenty-four total verses. The numerical values of the twelve letters are given in Table 4.3.

### Table 4.3 Numerical Values of Letters in Carolus Luython’s *Lamentationes*

<table>
<thead>
<tr>
<th>Letter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aleph</td>
<td>1</td>
</tr>
<tr>
<td>Beth (Bet)</td>
<td>2</td>
</tr>
<tr>
<td>Daleth</td>
<td>4</td>
</tr>
<tr>
<td>He</td>
<td>5</td>
</tr>
<tr>
<td>Caph (Kaph)</td>
<td>20</td>
</tr>
<tr>
<td>Lamed</td>
<td>30</td>
</tr>
<tr>
<td>Nun x 3</td>
<td>50</td>
</tr>
<tr>
<td>Ain (Ayin) x3</td>
<td>70</td>
</tr>
<tr>
<td>Coph (Qoph) x4</td>
<td>100</td>
</tr>
<tr>
<td>Reisch</td>
<td>200</td>
</tr>
<tr>
<td>Sin (Shin)</td>
<td>300</td>
</tr>
<tr>
<td>Thau</td>
<td>400</td>
</tr>
</tbody>
</table>

When all of the numbers are added in the tradition of Gematria, the total is 1,182, for which the integral reduced value is twelve. When all of the letters are included, meaning three Nuns and Ayins and four Qophs, the total is 1722, for which the integral reduced value is once again twelve. We have therefore already encountered the number twelve four times: there are twelve different letters, twenty-four (2x12) total verses, and the sum of the letters reduces in the manner of Gematria to twelve in both methods. It is unlikely that this is a mere coincidence, as nearly every other selection of verses yields different, less symbolic results. Palestrina’s book of *Lamentationes* from 1588, for example, uses eleven different letters, twenty-two total when repetitions are included. The eleven letters total 136 (Palestrina uses none of the letters that have a value over forty), or ten in reduced value, while the larger set totals 207, or nine in reduction.

The number twelve is highly symbolic in the Christian and Jewish traditions. Examples include the twelve apostles of Jesus, the twelve gates of the celestial city (Rev. 21:12) the twelve stars of the crown (Rev. 12:2), the twelve minor prophets of the Old Testament, and the twelve commandants (ten given by Moses, plus two given by Jesus). More relevant to the text of the *Lamentations* are the twelve sons of Jacob, who went on to found the twelve tribes of Israel. As the purpose of the *Lamentations* is to mourn the destruction of Israel and the Temple in Jerusalem, it is fitting that if Luython wanted to choose a symbolic number on which to base the structure of the composition, that twelve would be that number.

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The music of Luython’s *Lamentationes* is similar to other late Renaissance settings. The opening Hebrew letters, for example, are highly melismatic, and are certainly among the most ornate writing of any of his extant oeuvre. Niemöller goes into detail to reveal the mastery with which Luython was able to vary his technique, seamlessly switching from six voices to four, melismatic writing to homophonic, and ornately decorated to clear and audible annunciations.\(^{22}\) There are also several examples of dramatic tone painting, as Luython strove to depict musically the pain and sorrow of the text. Example 4.3, adapted into standard clefs from Commer’s 1879 publication, begins with the letter Beth, and continues to the opening of Chapter 1, verse 2 of *Lamentations*, “Plorans plorat in nocte, et lacrimae eius in maxillis eius” (She weeps bitterly in the night, and her tears are on her cheeks). The persistent minor harmonies and downward motion in all six voices musically depict the city of Jerusalem weeping for her fallen people.

\(^{22}\) Niemöller, 192-95.
Example 4.3 Carolus Luython, *Lamentationes*, measures 48-73

Continued
Example 4.3 Continued
There are two other compositional elements that appear to have a mystical association, though they also point to the problem of searching for these types of connections: they can lead the researcher down the proverbial rabbit-hole. The first
revolves around the text *Hierusalem, convertere ad Dominum Deum tuum*, which Luython inserts into the text three times in each section, or nine times total. The numbers three and nine have obvious symbolic meaning: three because of the Trinity, and nine because it is three times the trinity, and therefore a number of perfection, the nine choirs of angels, nine fruits of the spirit, and the nine spiritual gifts. Beyond the symbolic association of repeating the text nine times, it is also possible that the total length of the sections has a meaning. There are a total of 173 breves in the nine sections. The number 173 is itself significant because it is a prime number, and also the sum of three consecutive prime numbers: \(53 + 59 + 61 = 173\). The individual digits, 1, 7, and 3, are also highly symbolic. This potential symbolic connection, however, is an example of the danger of this kind of research. While I believe there is enough corroborating evidence to trust that the number twelve was a structural determinant, it is likely a stretch to assign meaning to a total of 173 breves; I bring it up here only as an example of how research that searches for mystical connections can often lead questionable results. I therefore try to only stand behind assigning meaning when there is a great deal of musical, contextual, and cultural evidence.

*Missa super basim: Caesar vive*

Luython published *Missa super basim: Caesar vive* in 1609 as the opening mass in his *Liber Primus Missarum*, the contents of which are given in Table 4.4. The volume contains nine of his eleven known masses, in formats ranging from three to seven voices.
Four settings are Parody masses, while four others are vaguely titled “Quodlibetica.”

Two of the masses appear in earlier manuscripts, and four have been republished in the modern era.

| Table 4.4 Carolus Luython, Liber Primus Missarum, A-Wn 37494; RISM 1609 |
|---------------------------------|-------|----------------|-----------------|
| Name                           | Parts | Model (all by Philippe de Monte) | Other Manuscripts | Musica Sacra, 1876-1878 |
| Super basim, Caesar Vive       | 7     |                             | A-Wn 16194, PL-WRu 97 |
| Super Filae Hierusalem         | 6     | “Filae Hierusalem”           |                 |
| Super Amorosi pensieri         | 6     | “Amorosi pensieri”           | A-Wn 15951, PL-WRu 100 |
| Quodlibetica, a 6              | 6     |                             |                 |
| Ne timeas Maria                | 5     | “Ne timeas Maria”            | v. 19, 24-42     |
| Tirsi morir volea              | 5     | “Tirsi morir volea”          |                 |
| Quodlibetica, a 4              | 4     |                             | v. 13, 59-71     |
| Ad aequales (quodlibet)        | 4     |                             | v. 17, 76-85     |
| Quodlibetica, a 3              | 3     |                             | v. 13, 72-80     |

Beyond its clear dedication to Rudolf, Missa super basim: Caesar vive stands out from the other masses in the set in several ways. Most noticeable is the unique setting for

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23 Comberiati considers the title Quodlibetica in his Late Renaissance Music at the Habsburg Court, and notes that the four settings with that title “include a quick execution of the text and a remarkable thematic unity within each setting.” See pages 76f.

24 The version of Liber Missarum used for this study is held at the Österreichische Nationalbibliothek in Vienna. RISM falsely identifies two holdings of the Liber Missarum in Vienna, from both 1609 and 1610, while there is only one. This is perhaps because the date 1609 was scratched out for an unknown reason and changed to 1610. There are also copies of the Liber Missarum in Prague, Augsburg, Berlin, Hamburg, and Regensburg. Comberiati provides a complete transcription and translation of the dedication, which is primarily concerned with securing payment. See Late Renaissance Music, 73ff.
seven voices, which we encountered in a handful of compositions in Chapter 3, but was still highly uncommon when compared to compositions for five, six, and even eight voices. *Missa super basim: Caesar vive* is also the only mass in the volume to feature a cantus firmus, which was unusual at Rudolf’s court, where the vast majority of masses were parody masses, as Comberiati has shown.  

Finally, *Missa super basim: Caesar vive* is unusual in that it is the only extant mass setting from Prague to incorporate a sung non-liturgical text in praise of Rudolf.  

Masses featuring performed extra-ordinary texts were not unknown in the Renaissance, as Jennifer Bloxam, Alejandro E. Planchar, and others have shown.  

*Caesar Vive* is distinctive, however, in that it does not feature either of the two common techniques for integrating new texts. One method, employed most notably by Palestrina and La Rue, involved a sacred antecedent, usually in the form of plainchant as a means of incorporating praise of a local saint or member of the clergy. The other technique was *soggetto cavato*, in which the vowels of the subject’s name are assigned solmization syllables that are used to construct a cantus firmus, first employed in a mass by Josquin in his famous *Missa Hercules dux Ferrariae*, and later adopted by a handful of other composers including Cipriano de Rore and Adrian Willaert. Luython did not employ either of these techniques; if he did attempt to portray Rudolf’s character in the

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25 Comberiati writes that nearly 75% of masses composed at Rudolf’s court were parody masses, while less than 10% used a cantus firmus. See *Late Renaissance Music at the Habsburg Court*, 103f.

26 Lambert de Sayve, who served as a composer for several members of the Hapsburg court, also wrote a mass setting that featured an extra-ordinary text, the eight-voice *Missa Laudate Dominum in sanctis eius* (GrazU 15, 82v-115), which includes an inserted text during the Agnus Dei “Austriacos reges occasus cantet et ortus” (East and West celebrate the Austrian sovereign in song). This mass was likely written in 1577 while de Sayve was working in Graz for Archduke Charles; see Comberiati, *Late Renaissance Music at the Habsburg Court*, 91-94.

mass, however, he would likely have done so in a manner more fitting with the mystical environment of Prague, by concocting a hermetic synthesis of astrological and mystical elements. It is my contention that these peculiar characteristics of Missa super basim: Caesar vive, which have heretofore eluded explanation from musicologists, are best explained not just as a hermetic representation, but as an agent for the harnessing of celestial power.

Luython composed his setting at a court environment in which artists frequently incorporated hermetic elements into their works to glorify their common patron. Rudolf’s fascination with hermetic art began during his upbringing in Spain in the palace El Escorial near Madrid, the architecture of which René Taylor has argued was modeled after hermetic principles.28 Rudolf’s court painters, Bartholomeus Spranger and Giuseppe Arcimboldo being among the most famous, frequently depicted Rudolf as a new Caesar Augustus or as a human Jupiter, the supreme god of gods.29 Arcimboldo’s famous depiction of Rudolf as a combination of fruit and vegetables, Vertumnus, was common of his style, known for microcosmic representations and schemes of interrelations that were analogies of macrocosmic power embodied in the seasons, time, or Rudolf himself.30 By portraying Rudolf as an amalgamation of crops he was shown as the lord of the harvest.

30 Evans, 174.
and the provider of sustenance to his empire.\textsuperscript{31} As seen in Chapter 3, Camillo Zanotti made a similar allusion in his six-voice madrigal from 1589, “O di progenitori eccelsi Augusti,” the text of which describes the name Rudolf as being eternal like Caesar Augustus’s. Court artists also frequently alluded to a connection between their patron and Jupiter, who held the position of being the Roman God that Rudolf sought to emulate. Numerous paintings of Jupiter were commissioned by the emperor, including one above the entrance to his famous \textit{Wunderkammer}.\textsuperscript{32} The planet Jupiter was also understood astrologically as the planet of wisdom, education, and freedom, and therefore the favorite of Rudolf.\textsuperscript{33} The Rudolf-Jupiter connection will prove to be vital for a hermetic interpretation of Luython’s \textit{Missa super basim: Caesar vive}.

In addition to being a renowned patron of the arts, Rudolf supported a number of scholars, the most distinguished being astrologer and astronomer Johannes Kepler, whose three laws of planetary motion would lay the foundation for Newtonian physics. For our discussion of the hermetic influence on Luython’s \textit{Missa super basim: Caesar vive}, Kepler holds center stage. His writings present a cosmology that intertwines science, music, and astrology in a manner more specific and detailed than any other scholar in Prague. In doing so he built upon the ancient belief in correspondences between musica mundana and musica humana, a tradition which was brought to the medieval world by Boethius, Ptolemy, and Aristoxenus; Kepler was intimately familiar with the works of all three, especially Ptolemy, whose \textit{Harmonica Book III} Kepler translated with the intent to

\textsuperscript{31} Kauffman, 26.
include in his own *Harmonices Mundi*, as will be discussed in Chapter 5.\(^{34}\) Kepler’s contribution to the theory of musica mundana stemmed from his brilliant scientific mind and precise astronomical measurements. Although he is celebrated today primarily for his advancement of astronomy, his scientific works were consistently motivated by a belief in the musical movement of the planets.\(^{35}\) Combined with his unwavering conviction in the validity of certain elements of astrology, over the course of his career Kepler outlined exact correlations of harmonic planetary alignments, to meteorological effects on the earth, and to an astrological imprinting on the human soul.

Kepler’s astrological system was based on a belief in the power of the aspects. The correspondences between the aspects and musical intervals are discussed in Chapter 2 (see Table 2.5), but it is worthwhile to explore in more detail Kepler’s theory of the aspects. As will be explored in Chapter 5, Kepler eventually would determine that the aspects and music were not directly related, but what concerns us in regards to Luython’s mass setting is what view Kepler held and published prior to 1609.\(^{36}\) His position on the relationship between music and astrology from this time is found primarily in four sources: *Mysterium Cosmographicum* (1596), *Calendarium in annum* (1599), *De Fundamentis Astrologiae Certioribus* (1601), and *De stella nova in pede Serpentarii*


\(^{36}\) In 1610, “after sixteen years of observing weather patterns,” Kepler no longer believed that the aspects and musical intervals were directly related; see Kepler, *The Harmony of the World*, xxii.
These four publications present a clear belief in the power and equivalence of music and the aspects.

Kepler’s claim that the aspects and music share an equal power began with a belief that the aspects themselves wield influence over the earth, primarily in the form of altering the weather. In *Calendarium in annum* he described a sentient force in the earth that recognizes when it is struck by particular aspects, to which it responds by releasing moisture:

Su muess abermahl in dem Erdboden nicht nur die thumme unverständliche Feuchtigkeit, sondern auch eine verständliche sehr steckhen, wölliche anfahe zu dantzen, wan jr die Aspect pfeiffen, die sich bey werenden starckhen Aspecten starckh erhitze, jr ampt mit aufftreibung der dämpff hefftiger treibe, und also allerley gewitter verursache: da sie sonsthen, wan khein Aspect fürhanden, still ist und nicht mehr dämpf treibt, dan zu den wasserflüssen vonnötten!

[There is in the earth not only dumb, unintelligent humidity, but also an intelligent soul, which begins to dance when the aspects pipe for it. If strong aspects last it carries on its function more violently by pushing the vapor upwards, and thus causes all sorts of thunderstorms; while otherwise, when no aspects are present, it is still and develops no more exhalation than is necessary for the rivers!]

By determining when particular aspects are going to strike the earth through observation of planetary movements, therefore, an astrologer is able to make predictions of future weather patterns, profoundly useful information for the planting and harvesting of crops. Kepler’s *De Fundamentis Astrologiae Certioribus* contains various predictions of weather patterns for 1602, prefaced by a lengthy discussion defending the validity of astrology, wherein he again argues that the earth possesses an animate faculty that is capable of receiving geometric angles and releasing vapors in response.

The aspects’ power over humans is limited in Kepler’s cosmology, and only
wields an influence as related to natal horoscopes, when the soul is imprinted with the
configuration of the planets. In De stella nova in pede Serpentarii Kepler explained, “The
character of that configuration is preserved, namely the configuration that was in the
heavens when the life of the human being was ignited at birth and was, so to speak,
poured into the mold.[... ] Somehow the images of celestial things are stamped upon the
interior of the human being.”39 This theory was not novel, though it does appear to have
been controversial. John Calvin, in particular, spoke out strongly against the notion that
the planets imprint a character on a person at the moment of birth, arguing instead that it
is the moment of conception that is significant, if highly difficult to determine for the
astrologer.40 Kepler held to his belief, and further argued that on the rare occasion that the
planets realign in a manner similar to one’s natal horoscope, thus producing the same
aspects, the subject is aroused to a state of joy and high productivity. In De Fundamentis
Astrologiae Certioribus, Kepler provided this summary:

In rebus politicis et bellicis astrologus sane votum aliquod habet, positis iis, quae
supra fundamenti loco dixi de animorum consensu cum configurationibus
coelestibus. Vigentibus enim validis aspectibus, omne animorum genus, quodlibet
in suo opere naturaliter vegetum est et alacre, maxime si aspectus ratione
geneseos familiaris sit individuo illi, quod consideratur. Non est ista sympathia
propter temperamentum corporis, ut coelem in aërem agat, hic in temperamentum
corporis, et hoc in animum; sed contra compatitur animus coelo per se, quia
cognitionem habet cum luce et harmonia, post etiam corpus suum transformat. Ac
cum homo sit animal sociabile, maxime igitur sociantur animi ad publicum opus,
sociatis in coelo geometrice planetarum radiis. Hoc autem negotium tanto rectius
tractari potest, si eorum geneses in promtu sint, qui (ut Tychonico verbo utar) fata
publica gubernant.

40 For John Calvin and astrology see Advertissement contre l’astrologie judiciaire / Jean Calvin ; édition
critique par Olivier Millet (Geneva: Librairie Droz, 1985).
Astrology clearly has some say in political and military matters, given those statements I have set forth above in the passage on fundamentals regarding the agreement of human dispositions with celestial configurations. For every kind of human disposition that has been roused to lively activity naturally by its own motivation will be moved to vigorous activities in strong aspects, especially if the aspect has a similarity of origin with the particular individual under consideration. This “sympathy” arises not from the temperament of the body [. . .] but, on the contrary, the mind of its own accord shares feeling with the sky, because it [the mind] possesses cognition with light and harmony; yet later it alters the body as well. Furthermore, since a person is a social animal, dispositions are particularly oriented to a public undertaking when those rays of planets are oriented geometrically in the heavens. But this task may be undertaken more accurately if there are ready at hand the horoscopes of those who (if I may use a Tychonian phrase) govern public destiny.]

The aspects possess the ability to bolster a spirit and give confidence to work when they match those of one’s natal horoscope. Much like predicting weather patterns based on the aspects, skilled astrologers have the ability to forecast diplomatic affairs if they know a particular ruler’s horoscope, which allows for calculations of his mood and when he would be the most amicable based on the aspects.

Similar to the planetary effects on people, Kepler agued, music has a power over its listener. The intelligent soul of the earth receiving the aspects is mirrored in the human body, which possesses the same ability to interpret geometric ratios. From Calendarium in annum:

Es pflegen etliche artz jre patienten durch ein lieblich Musica zu curieren. Wie khan da die Musica in eines andern Menschen leib würckhen? Nämlich also das die sehld des Menshen, wie auch etlicher thier die Harmoniam verstehet, sich darüber erfrewet, erquicket, und in jrem leib desto kräftiger würdt. So dan nun auch die himlische würckung in den Erdboden durch eine Harmoniam und stille Musicam khumpt.

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It is the custom of some physicians to cure their patients by pleasing music. How can music work in the body of a person? Namely in such a way that the soul of the person, just as some animals do also, understands the harmony, is happy about it, is refreshed, and becomes accordingly stronger in the body. Similarly the earth is affected by harmony and quiet music.\(^{42}\)

Unfortunately there is little explanation for the bold claim that the earth is affected by “Harmoniam und stille Musicam,” leaving the reader to wonder if man-made music has the ability to effect earthly weather patterns in the same way as the aspects. Presumably, as Kepler does not revisit this topic as far as I am aware, he refers to a broader understanding of musica mundana. Nonetheless, Kepler argues that the human soul is able to “understand harmony,” a skill that, he writes, is not reliant upon knowledge of music practice or theory:

Non ratiocinatur rusticus, quam proportionem geometricam obtineat vox ad vocem. Et tamen illa fidium harmonia extranea per aures rustici in mentem illabitur hominemque exhilarat; non sane mistionis vocum moderatione, non leni aurium demulsione (saepe enim violenti soni aures laedunt et nihilominus consonantia delectant sua) non ualla alia de causa, quae hucusque iuveniri potuerit: sed hanc unam ob rem, quia, ut in Harmonicis probabo, formam consonantiis conciliat geometrica aliqua ratio toti mundo reliquo familiaris, maxime animis, quos quidam veterum harmonias dixere.

[A peasant does not reason what geometric ratio one voice bears to another voice. And yet that external harmony of chords flows through the ears of the rustic into his mind and cheers the man. [And he is cheered] surely not by a moderation of the blending of voices, nor by the soft caressing of his ears (for often the ears ache from a violent sound and nevertheless they delight in the harmony) nor for any other reason that could have been discovered up to now; but [he is cheered] for this reason only, which I shall demonstrate in my Harmonics [a reference to his then work in progress, Harmonices Mundi, which was completed in 1619]: because a certain geometric ratio produces beauty in the harmonies. [This geometric ratio] belongs to all the rest of the world and especially to powers that certain ancients called harmonies.]\(^{43}\)


The connection between the aspects and music, therefore, extends beyond a shared ability to enliven, to an inherent geometric correlation that results in an equal power. Kepler recognized that aspects are constantly striking the earth, but he argued that it is only when they are at harmonic ratios that they exercise an influence over the earth. For this reason, in his first major publication, Mysterium Cosmographicum, Kepler assigned each aspect a consonant interval and declared that the two share an identical force, calling them “undoubtedly the same.” In 1606 he adopted the axiom that, “God the Creator either took the laws for ordaining the aspects from the harmonies of music within an octave [. . .] or attuned the ears of man, which are the judges of those consonances, to the heavenly aspects.”

From Kepler’s arguments we learn that the aspects have the ability to influence humans, especially when they realign to their positions at the moment of one’s birth, primarily by giving confidence and joy to one’s work. Music possesses a similar capacity to refresh a listener, and furthermore has the identical power as the aspects due to their shared geometric basis. Music is, in Kepler’s view, the only medium controlled by man which can have the same influence as the aspects. The logical leap is not a distant one, therefore, that music composed to mimic one’s horoscope would have a similar affect as the planets realigning in the position of the natal horoscope. If the aspects have the power

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44 “For this [influence] does not come about because rays join together to form any angle. For pairs of rays form some kind of angle on the day before and the day after the aspects, and forever; but the influence is manifested finally when the angle possesses a harmonic ratio.” Translation from “Johannes Kepler’s On the More Certain Fundaments of Astrology Prague 1601,” 97.
to strengthen humans, and music is an equivalent force, then music written based on a horoscope would provide a tool to emulate the positive influence of the aspects. Kepler’s work provides specific techniques on how to do just this, but first it is necessary to examine his role as a maker of horoscopes.

Shown below are the most significant parts of two of Kepler’s horoscopes for Rudolf II, both completed in 1602:

1) Planetae omnescircumstant horizontem. 2) Θ et ☿ gemino uterque satellite stipantur; ☿ etiam accuate Ὑ Δ, Θ contra domo VII, gaudet. 3). . . Nam dominium Lunae in Cancrum, Solis in Leonem.

Rudolfus II. Solem et Jovem occidentalem in angulo septimae et sextili Martis orientalis, Lunam orientalem in trino Saturni.

Rudolf’s horoscope consisted of a conjunction aspect between Jupiter and the Sun governing the zodiacal house Leo, which is therefore the most powerful sign, a trine aspect, which is an angle of 120 degrees, between Saturn and the Moon, and a sextile aspect, which is an angle of 60 degrees, between Mars and Jupiter. Figure 4.2 is a visual representation of Rudolf’s horoscope in the manner customarily shown in astrological sources. The large circle contains the twelve signs of the zodiac, while the positions of the celestial spheres are indicated outside of the circle. Lines cutting across represent the two significant aspects in Rudolf’s horoscope. Finally, the small circle next to the zodiac sign Leo is a conjunction aspect, and indicates that Leo is the most important sign in Rudolf’s horoscope.

Extant correspondence between Rudolf and Kepler reveals that between 1602 and 1606 the astrologer was also tasked with publishing a natal horoscope for first century Roman Emperor Caesar Augustus, the monarch that Rudolf most ardently sought to emulate. In a letter from this period Kepler explained that he had spent considerable time constructing Augustus’s horoscope because he had to overcome calendar changes and inaccurate data, revealing the importance Rudolf placed on determining the horoscope, as his regard toward the Roman went beyond mere respect, to a desire to channel his power by gaining the same celestial influence as was given to Augustus. Kepler’s horoscope for Augustus is far less detailed than his horoscope for Rudolf; because of the extreme difficulty in determining his exact date and time of birth, he was

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only able to confirm that Augustus was governed by Capricorn. The zodiac sign alone, however, was enough for court painters and engravers to symbolize Rudolf’s connection with the Roman emperor. Images of Rudolf frequently include an allusion to Capricorn, whose zodiac symbol is the goat, which in late Renaissance astrology was either portrayed as a two-legged goat with a fish-like tail, or a normal four-legged goat without a tail. The Getty Museum in Los Angeles, for example, holds a medal minted in the early 1600s that juxtaposes the image of Rudolf with the goat of Capricorn, shown in Figure 4.3. The front of the medal is a portrait of Rudolf, while the back pictures the Habsburg eagle and a goat jumping over the earth with the inscription “ASTRUM FULGET CAES” (The Emperor’s star shines brightly). The medal provided a published visual representation of Rudolf’s aspiration to be Augustus reincarnated.

Figure 4.3 Medal of Rudolf II, Early 1600s

50 Joannis Kepleri astronomi opera omnia, VIII, 331-332. See also Barton, 33f.
An engraving by Aegidius Sadeler from 1603 of Rudolf, Figure 4.4, provides another example of the image of the emperor being accompanied by the image of Capricorn. The portrait of Rudolf wearing the necklace of the Order of the Golden Fleece was painted by court artist Hans van Aachen. Sadeler embellished the engraving with the Habsburg eagle on the upper right and the Capricorn goat on the upper left. Rudolf himself is bordered by two personifications, Hermathena on the left representing the rich humanist culture of the emperor’s court, and on the right the figure of Time. Below Rudolf are two chained Turkish prisoners, subdued by Jupiter's thunderbolts.

Figure 4.4 Portrait of Rudolf II, 1603, Aegidius Sadeler
Luython, or at least publisher Nicolaus Strauss, was well aware of Rudolf’s association to Capricorn, which is made clear in the illuminated ‘C’ that appears to have been created especially for this mass. The illumination, shown in Figure 4.5, depicts Rudolf seated on his throne holding a scepter and the *globus cruciger*, signaling his role as defender of Christianity and Jesus’ dominion over the world. He is surrounded by shields, a helmet and five eagles representing the Habsburg empire. In addition, on the top right side is the Habsburg lion standing for his own astrological sign of Leo, and on the bottom right is a goat representing Augustus’s sign Capricorn. As with the coin and Sadeler’s engraving, Rudolf is again paired with the goat of Capricorn, here within the context of a sacred musical composition.
Composition of Missa super basim: Caesar vive

While there are many usual features of Missa super basim: Caesar vive, the general polyphonic construction of the mass reflects typical compositional methods of the late sixteenth and early seventeenth centuries. All five sections are in Dorian mode with tonal type c1-D, according to Harold Powers’ notation: a C clef on the lowest staff of the first cantus, a flatted key signature, and a final cadence on D.\textsuperscript{51} Marco Mangani and Daniele Sabaino have identified this tonal type as “moderately problematic” in their case-study of Palestrina’s motets, indicating that at times it can prove difficult to connect

consistently this specific tonal type with a modal designation.\textsuperscript{52} The cadences in Luython’s setting, however, align almost perfectly with the traditional cadential hierarchy for flatted Mode 1.\textsuperscript{53} Sixteenth-century German composer and music theorist Gallus Dressler, while assigning cadences for the eight modes, listed the \textit{principales} cadences for flatted Mode 1 as D and G, \textit{minus principales} as A and B\textsubscript{b}, and the rest as \textit{peregrinae}, or “foreign,” (\textit{Reliquae quaecunque fuerunt peregrinae sunt}).\textsuperscript{54} \textit{Missa super basim: Caesar vive} adheres to this ranking with 50\% of cadences, including all movement ending cadences, on D, 23\% on G, 16\% on A, 5\% on B\textsubscript{b} and F, and 2\% on C.

Where Luython most markedly diverges from common practice in \textit{Missa super basim: Caesar vive} is in the peculiarity of the cantus firmus. The text itself, which alternates between the second tenor, first altus, and second cantus, corresponds to the hermetic notion “as above, so below.” It reads:

\begin{center}
\begin{tabular}{lrl}
Caesar Vive, & Long live Caesar, \\
faxit Deus noster, & may it be God’s will, \\
omnes gentes clamant, & all the nations proclaim, \\
Caesar Vive. & long live Caesar. \\
\end{tabular}
\end{center}

The cantus firmus both opens and closes with “Caesar Vive,” the second line attempts to gain God’s favor from above, while the third calls for people on earth to desire a long life for the Emperor. The melody and text repeat during the entire mass, never resting more

\textsuperscript{52} Marco Mangani and Daniele Sabaino, “Tonal Types and Modal Attributions in Late Renaissance Polyphony: New Observations,” \textit{Acta Musicologica} 80 (2008), 250.
\textsuperscript{53} At the time of Luython’s \textit{Liber Primus Missarum} the 12-mode system had begun to gain in popularity; there is no evidence from Prague, however, of its adoption as all modal attributions and discussions use the 8-mode system.
than eight breves before reentering. This original order is not always maintained, however, as Luython often repeats certain phrases; the motive “Caesar Vive,” which textually and musically form the most prominent theme of the mass, for example, sounds thirty-four times throughout the composition, as the choir repeatedly calls out “long live Caesar.”

The cantus firmus, shown in Example 4.4, appears to have been newly composed, and because it repeats constantly throughout the mass as well as serving as the basis for the six other polyphonic voices, it stands out remarkably. No other melody in Liber Primus Missarum is constructed in a similar fashion, and I have been unable to identify any comparable examples from the Rudolfine court, where the vast majority of mass compositions were based on polyphonic models.

**Example 4.4 Carolus Luython, Missa super basim: Caesar vive, cantus firmus**

The melody begins with a downward leap of a fifth, followed by an upward leap of a minor third and soon after an upward fourth. Large leaps characterize the melody, which includes seven leaps of at least a third in the span of only twenty notes, as well as a
leap of a fourth when the melody repeats, as it does throughout the setting, though sometimes after several breves of rest.

Melodically the cantus firmus appears to be divided into three sections, the first and last consisting largely of leaps, while the middle is an upward scale of six degrees with an A repeated three times, as shown in Example 4.5a. An hermetic analysis for this curious arrangement is explored below, but a numerological explanation could be that the two shorter phrases consist of six notes, which is the number of man, while the middle passage consists of eight notes, the number of perfection. Man is therefore shown to be disjointed and irregular when compared to the divine perfection of the rising scale.

Textually, however, the melody consists of four sections, which roughly follow a chiastic structure of ABB’A, shown in Example 4.5b. Divided this way the second and third sections appear almost as reflections of each other: the second section opens with a leap of a fifth, followed by a scalar passage, while the third opens with a scalar passage and concludes with a leap of a fifth on the same pitches. As with a melodic division, A is significant in the textual division as articulating three of the four textual breaks, which in the polyphonic composition often serves in cadences as either the root of a dominant chord, or the fifth of a triad on D.
Example 4.5 Carolus Luython, *Missa super basim: Caesar vive*, Cantus Firmus Divisions

a. Melodic Division

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\[ \text{Example Image} \]
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b. Textual Division

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\[ \text{Example Image} \]
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The cantus firmus might be attributable to Dorian mode, with the upper range sounding D four times, and the repeating A acting like a recitation tone. The appearance of both B♮ and B♭ in the cantus firmus, however, complicates this understanding, although Walter Werbeck has argued that in Central Europe Dorian mode often contained both B natural and flat.\(^{55}\) Another hearing of the melody is that the opening and closing bars are in the soft hexachord, bounded by F and D, with a B♭, while the middle portion is in the hard hexachord, signified by the B♮, though Stefano Mengozzi has recently renewed a

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call for a “soft” interpretation of hexachordal theory in which it was rarely used as a foundational tool.\textsuperscript{56} Luython’s treatment of the cantus firmus in the polyphonic fabric, however, supports hearing the melody as composed of two hexachords, as every repetition in the mass except one occurs on the three traditional hexachords, indicating a conscious effort to incorporate hexachordal theory, perhaps only to draw attention to the compositional tool \textit{inganni}, which will be discussed below. Curiously, the cantus firmus ends on A, rather than D as would be expected in Dorian mode, or perhaps F as tonal ears might suggest. The lack of resolution supports the constant repetition of the melody found in the mass, as it never sounds as if it has reached an end-point. Luython’s melody, therefore, has a possible mystical explanation in that its lack of cadence and its continuous reiterations suggest that the melody of Rudolf II will sound unceasingly throughout time.

\textit{Missa super basim: Caesar vive and the Keplerian Horoscopes}

For Luython to have attempted to musically portray Rudolf as a divine leader and the reincarnation of Caesar Augustus, and perhaps to have even sought celestial influence for his beleaguered patron, would have been entirely in line with the artistic and scholastic tradition in Prague, and fitting for the opening mass in his 1609 collection. Applying hermetic and astrological connections with music according to Kepler, Gaffurio, de Pareia, and Agrippa that were discussed in Chapter 2 (see Table 2.2) to Rudolf’s horoscope provides the following musical material: the significant trine and

\begin{footnotesize}
\begin{itemize}
\item Stefano Mengozzi, \textit{The Renaissance Reform of Medieval Music Theory: Guido of Arezzo between Myth and History} (Cambridge: Cambridge University Press, 2010).
\end{itemize}
\end{footnotesize}
sextile aspects are mimicked in music by a perfect fifth and a minor third respectively. For the zodiac sign Leo, Rudolf’s governing sign according to Kepler, Dorian mode is used, while Capricorn, the sign of Caesar Augustus also as maintained by Kepler, is represented by Phrygian mode. For the specific planets mentioned in the horoscope the following pitches are assigned: the Sun is D, the Moon A, Saturn G, Mars E, and Jupiter F. Figure 4.6 provides a representation of the Rudolfine horoscope as produced by Kepler with the hermetic pitches next to the corresponding astrological sign.

Figure 4.6 Visual Representation of Rudolf’s Horoscope with Musical Pitches

Analysis of the cantus firmus reveals that precisely these elements are the building blocks of the melody, as shown in Example 4.3. First, it is bounded on its upper limit by D, the final of Dorian mode, representing Leo as well as the Sun, and on its
lower limit by F, the pitch for Jupiter, representing Rudolf himself, as discussed earlier.

Three of the four cadence pitches, shown here as half notes, are on A, which is both the recitation tone of the authentic Dorian mode and the pitch that represents the moon. The third most frequent pitch, after D and A, is C, the recitation tone of the authentic Phrygian mode, which represents the sign Capricorn. Phrygian mode is further reinforced by the melodic movement of a half-step at the end of each statement of “Caesar Vive.” There are four leaps of a fifth, which represent the trine aspect, and one leap of a minor third, representing the sextile aspect. Finally, the upward scalar passage can be hermetically understood as a movement from Jupiter, which represents Rudolf, through the moon, to arrive at the sun. By this reading, the melody itself evokes an ascendance of the emperor from his place on earth to the transcendent glory of the heavens.

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57 This type of hermetic analysis does provoke one intriguing question, namely why, given its importance in the horoscope, is there no E in the cantus firmus? There are three possible reasons for this. First, Mars, the planet which E represents, is mentioned in the horoscope because of its role in the creation of a trine aspect with Jupiter. The aspect, according to Kepler, is the more significant element, and is already well represented in the cantus firmus. Second, Mars does not hold the same importance for Rudolf as Jupiter or the Sun, both of which are symbolic of the Emperor. There is therefore not the same impetus to highlight Mars. Finally, by avoiding an E, the cantus firmus remains within the bounds of the soft hexachord, the significance of which will be discussed below.
It is worth noting here, as we consider an astrological understanding of the cantus firmus, the importance of the number seven in this melody and the mass as a whole because it further suggests a hermetic understanding of Luython’s composition. The number seven, as mentioned throughout this study, has special significance in the Christian tradition, including God resting on the seventh day of creation, Jesus’ seven words on the cross, the seven joys and sorrows of Mary, and the numerous appearances of the number seven in the Book of Revelation, to name just a few examples. Seven also has a special significance in mystical communities, for example the seven pillars of wisdom, the seven major operations of alchemy, and the seven celestial spheres (Moon, Sun, Mercury, Venus, Mars, Jupiter, and Saturn). Luython first draws attention to the number seven by composing Missa super basim: Caesar vive for the unusual

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arrangement of seven voices. Compositions for seven voices were not unprecedented at Rudolf’s court, the late madrigals of Philippe de Monte and a book of madrigals by Johann Batista Galeno being two examples, but a seven-voice assignment was still rarely used and is highly suggestive of a mystical or symbolic intent on the part of the composer. Beyond the obvious example of the scoring the number seven is made a vital element of the composition in several less immediately noticeable ways: 1) By including both a B♭ and a B♭ in the cantus firmus the cantus firmus itself is constructed of seven different pitches. 2) From the Sanctus to the beginning of the Agnus Dei the phrase “omnes gentes clamant, Caesar vive,” sounds seven times uninterrupted, that is, without an insertion of the phrase “faxit Deus noster.” Perhaps this is an effort to make the “earthly” portion of the text divine by repeating it seven times, and therefore bring it to the level of the “heavenly” line. 3) After establishing the melody in the second tenor, the voice carrying the cantus firmus changes seven times during the mass, as shown in Table 4.5.

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Table 4.5 Carolus Luython, *Missa super basim: Caesar vive*, cantus firmus voice distribution

<table>
<thead>
<tr>
<th>Mass Section</th>
<th>Voice</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyrie 1 and Christe</td>
<td>Tenor II</td>
<td></td>
</tr>
<tr>
<td>Kyrie 2 and first 1/2 of Gloria</td>
<td>Cantus II</td>
<td>1</td>
</tr>
<tr>
<td>Second 1/2 of Gloria and first 1/3 of Credo</td>
<td>Tenor II</td>
<td>2</td>
</tr>
<tr>
<td>Middle 1/3 of Credo</td>
<td>Cantus II</td>
<td>3</td>
</tr>
<tr>
<td>Last 1/3 of Credo</td>
<td>Tenor II</td>
<td>4</td>
</tr>
<tr>
<td>Sanctus</td>
<td>Altus II</td>
<td>5</td>
</tr>
<tr>
<td>Benedictus</td>
<td>Tenor II</td>
<td>6</td>
</tr>
<tr>
<td>Agnus Dei</td>
<td>Cantus II</td>
<td>7</td>
</tr>
</tbody>
</table>

4) In the Credo there are seven melodic scalar passages of seven pitches scattered throughout the movement. 5) Also in the Credo, on the text “Et exspecto resurrectionem mortuorum,” there is a rare melodic leap of a seventh in the first cantus, as shown in Example 4.7. Given the text, and that it is preceded by the only scalar passage of eight notes in the Credo, this leap could have been meant to symbolize the resurrection of the dead. All of these instances of the number seven suggest that Luython knowingly composed *Missa super basim: Caesar vive* with a mystical or symbolic intent.
Example 4.7 Carolus Luython *Missa super basim: Caesar vive, Credo, breves 265-273 (Bass and Tenor II tacet)*

Cantus 1

Cantus 2

Altus 1

Altus 2

Tenor

C 1

C 2

A 1

A 2

T

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345
As is typical of the genre, the cantus firmus serves as a melodic source for all the polyphonic voices throughout Luython’s mass. Each of the five mass sections is based on a different portion of the cantus firmus, as shown in Table 4.6, though the opening four-note statement of Caesar Vive, which I argue contains the trine and sextile aspects and the signifier for Leo, appears throughout the mass. In the five other masses in the Liber Missarum for which there is an identifiable model Luython followed common late-Renaissance practice by treating the model freely and only using direct quotation to begin mass sections. In Missa super basim: Caesar vive, however, he quoted the cantus firmus far more often and constantly integrated melodic material into the polyphonic fabric of the mass. The salient features of the cantus firmus thus appear with high frequency. In the Gloria, for example, there are eighty-two melodic leaps of a fifth. By comparison, in Luython’s Missa Filiae Hierusalem, which has a significant melodic fifth in its model, there are only forty-four melodic fifth leaps in the Gloria. The same holds true for the other significant melodic features, such as the fifth to a minor third and the upward scalar passage, indicating that Luython desired the polyphonic fabric to be saturated with the cantus-firmus melody.
Table 4.6 Missa super basim: Caesar vive, Cantus Firmus Usage

<table>
<thead>
<tr>
<th>Mass Section</th>
<th>Primary Source Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyrie 1</td>
<td>Caesar vive 1</td>
</tr>
<tr>
<td>Christe</td>
<td>Caesar vive 1, 2</td>
</tr>
<tr>
<td>Kyrie 2</td>
<td>Omnes gentes clamant, Caesar vive 1</td>
</tr>
<tr>
<td>Gloria</td>
<td>Caesar vive 1</td>
</tr>
<tr>
<td>Credo</td>
<td>Omnes gentes clamant, Caesar vive 1</td>
</tr>
<tr>
<td>Sanctus</td>
<td>Faxit Deus noster</td>
</tr>
<tr>
<td>Benedictus</td>
<td>Caesar vive 1, 2</td>
</tr>
<tr>
<td>Agnus Dei</td>
<td>Faxit Deus noster, Caesar vive 1</td>
</tr>
</tbody>
</table>

Example 4.8 contains my transcription of the Agnus Dei with indications as to the portion of the cantus firmus from which particular melodic motives are derived, which illustrates Luython’s thorough integration of the cantus firmus into the polyphonic fabric. The Agnus Dei begins with the Caesar Vive text in the second cantus, followed by the first and second tenor on an inversion of the Deus noster motive from the cantus firmus, which is then imitated in the first cantus. The bass opens with a variation on the first Caesar Vive melody. Luython developed these musical themes, the inverted scalar passage and open Caesar Vive motive, through the next several breves. Also integrated are several other themes from the cantus firmus, including vive faxit and omnes gentes clamant, before a concluding line consisting of a reprise of the Deus noster scalar passage, this time in its original upward motion. Leaps of a fifth permeate the Agnus Dei, as they do throughout the mass. There are also two indications in the example that identify possible occurrences of the compositional technique inganno.
Example 4.8 Carolus Luython, *Missa super basim: Caesar vive, Agnus Dei*

Continued
Example 4.8 Continued
Example 4.8 Continued
Example 4.8 Continued
Example 4.8 Continued
For two variations of the cantus firmus in Example 4.8, and dozens of others throughout the mass, Luython appears to have employed a simple form of the compositional technique inganno, a method of transposition by hexachord in which solemnization syllables are assigned to each pitch of a model melody and then maintained by utilizing notes from a different hexachord that have the same solmization assignment. The term inganno appeared first in 1603 in the writings of music theorist Giovanni Maria Artusi, who implied that the technique was used by composers well before 1600. Musicologists have recognized multiple uses of inganni from music of the late sixteenth and early seventeenth centuries, primarily in Italian instrumental music, and Peter Schubert and Simon van Damme have argued that it was used as early as the mid-sixteenth century. Luython studied for many years in Naples and was well versed in contemporary compositional practice, which he revealed in his Venetian-style madrigals and his later keyboard compositions, suggesting that he learned of the technique while in Italy.

The first melodic statement of “Caesar Vive”, which contains the trine and sextile aspects as well as the Leo signifier ‘A’, serves as a prime example of Luython’s employment of inganni. The melody is repeated verbatim in the polyphonic voices only

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five times throughout the mass, with all but one as an initial entrance at the beginning of a mass section.\textsuperscript{63} Instances of transposition through \textit{inganno}, however, occur forty three times. Example 4.9 contains the three most common types of \textit{inganno} used by Luython to alter the original melody. The hexachord is identified above the staff, with the corresponding syllables below.

\textbf{Example 4.9 \textit{Inganno} in Missa super basim: Caesar vive}

\textit{Inganno} can be difficult to identify, because in any musical variation there is the possibility that altered notes will match syllables from a different hexachord, thereby creating a false \textit{inganno}. I have been able to find no other convincing examples of \textit{inganno} in Luython’s \textit{Liber Missarum}, however, suggesting that the frequency of occurrences in \textit{Missa super basim: Caesar vive} was not accidental, but was perhaps employed to enhance the mysterious or mystical qualities of the mass. Example 4.10 illustrates how \textit{inganno} is used in the first section of the Kyrie. In this excerpt Luython’s employment of \textit{inganno} can be heard seven times, marked with ‘I,’ as well as two statements of the original melodic theme entirely in the natural hexachord. In each

\textsuperscript{63} The one appearance of the first “Caesar Vive” motive that correctly matches the original intervals that does not occur at the opening of a section is in the Bassus in the \textit{Credo} on the text “ex Maria.” Perhaps this also has a symbolic meaning, but it is difficult to determine beyond speculation.
occurrence of *inganno* Luython preserved the order la-re-fa-mi; hexachords are indicated over the corresponding notes. Also shown are two instances where the first two notes of the theme are inverted, followed by the next two pitches in either the soft or natural hexachord. I contend that Luython’s deliberate maintenance of the solmization syllables supports hearing these pitches as having astrological significance. *Inganno* allowed Luython to create variations for musical interest but still maintain pitch relationships at an abstract level, and therefore to infuse the entire composition with hermetic significance for his struggling patron.
Example 4.10 Carolus Luython, *Missa super basim: Caesar vive, Kyrie with Inganno*

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Continued
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Example 4.10 Continued
Example 4.10 Continued
Conclusion

In these case studies I have explored how hermeticism may have influenced specific late-Renaissance composers more than previously recognized. In the *Lamentationes* the frequent appearance of the number twelve, by both obvious methods and through a basic application of Gematria, suggests a knowledge of hermetic philosophy, that is, a perspective in which words, numbers, and objects are all divinely connected. As Example 4.10 demonstrates, *Missa super basim: Caesar vive* is permeated with cantus firmus material and, if we accept an astrological analysis, continually sounds out Rudolf’s horoscope. In so doing, and if indeed Luython did purposefully incorporate hermetic elements into his mass setting by representing musically the cosmic order at the moment of Rudolf’s birth, he also would have provided agency to positively affect the emperor. As quoted above, Kepler wrote that when the planets realign in the position of one’s horoscope or produce the same astrological aspects then the subject is revived and given power; he also wrote that music, and music alone, could reproduce the planetary angles at the earthly level. In the context of the Prague court, where futures were predicted based on the movements of the planets, and political, agricultural, and military decisions were all made after first consulting astrological charts, that Luython should have sought to imitate Rudolf’s horoscope to bring aid to his beleaguered and increasingly impoverished patron, while perhaps astounding to our modern-day musical sensibility, would have been a reasonable hermetic endeavor.
Chapter 5

Johannes Kepler’s Astrological and Astronomical Music

Thus I have shown that in the heavens according to true and genuine quantitative reasoning and based on measurement, but not by mere trivial interpretation of symbols, there are all the harmonic proportions, the kinds of harmonies, the musical system or scale, and most of its keys, the varieties of tones, planets which emulate the figured music of voices, and finally the universal counterpoints of the six primary planets.¹

With these words Johannes Kepler began his conclusion to his monumental work on astronomy and music theory, *Harmonices Mundi*, published in 1618 after nearly two decades of gathering astronomical measurements and performing extensive analyses. In it Kepler strove to provide proof of God’s divine structure of the universe by establishing a musical system that governed the heavenly bodies. The work contains an exhaustive discussion of music theory, geometry, astronomy, and astrology, and the revelation, almost in passing, of what would later be known as his third law of planetary motion: that the distance of a planet from the sun is related to the length of its orbital period. Not often discussed by musicologists or historians of science, however, he considered the *Harmonices Mundi* his most significant work.² It is also an example of the influence that

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² Ibid., xxxviii.
developing music theory and musical styles had on astronomical and scientific thinking at
the birth of the scientific revolution.

The discoveries that allowed Kepler to put forth his bold astronomical
proclamations did not come easily or quickly. His path was blocked by many forces,
including contemporary astronomers and music theorists, professional obligations, and
his own personal struggle to reject ancient astrological and astronomical canon. It was the
latter that perhaps provided the largest stumbling block as Kepler continually grappled
with early theorists, in particular Claudius Ptolemy, on whose Harmonics Kepler largely
modeled his Harmonices Mundi.\(^3\) Kepler’s initial unwillingness to contradict established
astronomical doctrine is indicative of a common struggle that often hindered scientific
advancements. While the concept of experimentation was beginning to take hold among
scientists, their principal activities still consisted primarily of close readings of ancient
texts to enhance contemporary understanding or search for new explanations.\(^4\) Indeed,
one of the last advancements before the arrival of the scientific revolution was
abandoning the practice of accepting ancient doctrine without question in favor of
discovering new data; Kepler’s development as a scholar encapsulates this struggle as it

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\(^3\) See Kepler, *The Harmony of the World*, 130f for a discussion of the ancient and contemporary musical
sources used by Kepler. A translation by Antonius Gogavinus of Ptolemy’s *Harmonica* was acquired by
Kepler in 1600. Unsatisfied with the translation, Kepler requested a loan of the Greek manuscript from his
friend Herward von Hohenburg, which he received in 1607. During the writing of *Harmonices Mundi* he
chose not to include his translation of Ptolemy, as he had decided there were too many differences in
opinion, though he did include a lengthy discussion of Ptolemy in an appendix (see *The Harmony of the
World*, 499-508). Kepler’s translation of *Harmonica* was published in the nineteenth century in *Joannis
Kepleri Astronomi Opera Omnia*, vol. 5, 335-412.

\(^4\) While debates over the proper model of the universe lasted for two thousand years, almost all astrologers
prior to the sixteenth century, and many within that century, continued to use astronomical measurements
produced by the ancient Greeks using primitive astrolabes. Not until after Copernicus was it common for
astrologers to move beyond theorizing about the planets to performing their own measurements. This story
is told in Arthur Koestler’s *The Sleepwalkers: a History of Man’s Changing Vision of the Universe* (New
York: Grosset & Dunlap, 1959); for the Renaissance scientist as an interpreter of ancient texts, see also

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was not until he could free himself from an inherited canon, a shift in which I argue music theory was greatly involved, that he made discoveries crucial to the founding of modern astronomy.

Kepler’s work has appeared numerous times throughout this study, but it merits its own chapter as it offers a clear example of the shift in thinking that occurred throughout Europe in the first decades of the seventeenth century, and specifically in Prague: hermetic, mystical understandings of the universe were slowly replaced by scientific, rational interpretations. The influence of this shift on music composition and theory was profound, and the work of Kepler, who was at different times during his career an ardent supporter of each mode of thought, provides a fascinating vantage point from which to witness the change of conceptions. To that end, this chapter centers on three primary issues crucial to understanding Kepler’s unique relationship with the musical culture in and around Prague in the first two decades of the seventeenth century. First is Kepler’s adoption and then modification of ancient tenets regarding the connections between the music of the spheres and man-made music. Second is an appraisal of his writings on music prior to and including *Harmonices Mundi*, including the heretofore unexamined cause and impact of Kepler’s shifting beliefs about the astrological aspects, their powerful relationship with both celestial and terrestrial music, and their role in changing ideas of musical significance in the early seventeenth century. Third is music’s influence on Kepler’s astronomical work at the birth of the scientific revolution, as well as his subsequent effect on later music theory, especially in the writings of German music theorists at the dawn of the Baroque.
The astrological aspects have already been discussed in Chapters 2 and 4 in different contexts. Chapter 2 provides a brief overview of the aspects and their connections to specific intervals. In Chapter 4 I discuss Kepler’s theories about why the aspects and music share an equal influence and how that effect can be harnessed, before exploring how Luython likely incorporated Kepler’s theories and horoscopes into Missa super basim: Caesar vive. In this chapter I investigate Kepler’s changing opinion on the subject and why he eventually decided the two were not related. This change has not yet been discussed by historians of science or music, but it proves to be a crucial stimulus that led Kepler to pen Harmonices Mundi.

The planetary aspects had been a major feature of astrology since the work of Claudius Ptolemy (c. 90 – c. 168 CE), and a short review of his work will be helpful as Kepler quotes from his writings often. He briefly discussed the relationship between music and the aspects in Tetrabiblos and at length in the frustratingly unfinished Harmonika. Both of these treatises received multiple re-printings in the late Renaissance, when astrology reached a peak in popularity. In Tetrabiblos Ptolemy wrote that the significance of the aspects is derived from analogy with consonant music intervals. He then assigned the aspects to specific intervals, such as the opposition aspect to an octave and the quartile to a perfect fourth, as shown in Table 2.5 of Chapter 2.

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Ptolemy expanded these ideas in *Harmonics*, a three-volume work that offers a thorough discussion of numerous elements of music theory. The relationship between the aspects and music is a principal subject of the third volume, which was left incomplete, and where he argues that “the heavenly hypotheses are perfected in accord with the harmonic ratios.” After contending that identical intervalllic movements are found in the planets and music, Ptolemy divided the zodiac into twelve sections within which he transcribed the double diapason perfect system. He then highlighted the consonant intervals on the circle and contended that their corresponding zodiac signs are the most powerful when harnessed through planetary aspects. For example, the influential perfect fourth between mese and hypate meson (modern day E and A) is reproduced by two planets forming an aspect from the zodiac signs Scorpio and Leo. He concluded this section by claiming “The arrangement of both the tetrachords and whole tones in the perfect system stands clear for the arrangement of the aspects of the sun.”

By Kepler’s lifetime certain astrological methods had begun to come under question by the burgeoning scientific community. Astrological readings based solely on the signs of the zodiac, for example, received scrutiny from multiple scholars who wrote that the division of the heavens into twelve parts was a cultural construct rather than a metaphysical one as Ptolemy had argued. Kepler shared skepticism regarding the accuracy of contemporary astrologers, but the principal element that Kepler did not doubt was the efficacy of the aspects and, at least until late in his career, their inherent

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8 Ibid., 161.
connection with music. During his employ in Prague from 1600 to 1612 under Rudolf II, Kepler’s primary function was the production of horoscopes and predicting future events based on his interpretations of the planetary aspects. Most of Kepler’s writings include at least some discussion of the aspects as he sought not to discard astrology, but to refine it into a more effective, predictive discipline. Kepler did have doubts about certain features of traditional astrology (most notably he dismissed any significance attached to the signs of the zodiac), but throughout his career he continued to argue for the validity of the planetary aspects, which were central to both his astrological and astronomical writings.11

Kepler’s engagement with music began in 1596 with his first major publication, *Mysterium Cosmographicum*. In this work, based on Copernicus’s heliocentric universe, Kepler strove to determine why the planets are spaced at their distances? His solution was a cosmological system in which the distance between the six planets could be explained by inserting one of the five platonic solids between each planet: the tetrahedron, cube, octahedron, dodecahedron, and icosahedron.12 His conjectural system began a trend that would continue throughout Kepler’s writings: an unending drive to reveal the majesty and logic behind God’s creation. By discovering that perfect geometrical forms, the platonic solids, were the basis of the entire universe, Kepler believed he had found proof of God’s perfect creation. Despite soon abandoning this model, he wrote in a revised

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10 Kepler’s primary writings specifically about the practice of astrology were *De Fundamentis Astrologiae Certioribus* (1601) and *Tertius Interveniens* (1610).
11 Rabin, 753ff.
publication in 1621 that, “the whole scheme of my life, studies, and works arose from this one little book.”¹³

Kepler devoted one chapter of *Mysterium Cosmographicum* to demonstrating the relationships between the heavenly bodies and man-made music. He began by employing music theory to show that the zodiac is rightly divided by ancient writers into twelve parts; in so doing he challenged contemporary scholars who argued against a twelve-fold division, because they could identify no difference in the types of power between the twelve sections. Kepler agreed that the influence wielded by the different signs was equal, but still maintained that there was a division, which can be proven to have been done by God specifically because it was into twelve parts.¹⁴ As evidence he turned to the importance of the number twelve in music theory. Kepler recognized eight consonances in music: unison, major and minor third, perfect fourth, perfect fifth, major and minor sixth, and the octave. The lowest common factor of the digits that make up their ratios, which include 2:1, 3:2, 4:3, 5:3, 5:4, 6:5, and 8:5, is 120, but when only the perfect consonances are employed (octave, fourth, and fifth: 2:1, 3:2, 4:3), the least common multiple is twelve, thus proving it to be a highly significant number and one ordained by God due to its place in music theory.¹⁵ Kepler’s speculative argument, centered on attaching mystical significance to particular numbers, was based on sixteenth-century Italian theorist Gioseffo Zarlino, who Kepler cited as being a musical source. Kepler would later abandon this mode of thinking, turning against precieved number symbolism by Zarlino. Kepler later considered the scenario of Zarlio numerological conjecture, but

¹³ Ibid., 61.
¹⁴ Ibid., 131.
¹⁵ Ibid., 133.
his acceptance of eight consonances stems from Zarlino, as does his initial belief in the
divine nature of music.\textsuperscript{16}

Having used music to defend the signs of the zodiac, and as discussed in Chapter 2, Kepler then combined numeric music theory with Ptolemy’s theory of the aspects and claimed that the three perfect harmonies are directly related to the three perfect aspects (Conjunction to Unison, Opposition to Octave, Trine to Perfect Fifth). In addition to the two other Ptolemaic aspects, Kepler added three more of his own to account for the remaining musical consonances. This is a significant break with Ptolemy and astrological dogma, and was partly brought about by contemporary music theory and specifically, again, the work of Zarlino. For 1,500 years the only intervals usually recognized as consonant were the unison, fourth, fifth, octave, twelfth, and double octave. After more than a century of changing music practice Zarlino, among others who Kepler may have read, revised the system by naming thirds and sixths consonances as well.\textsuperscript{17} Kepler was a strong proponent of this addition and applied it to astrology writing, “Yet there still remain three musical harmonies. I suspected at one time that we should not overlook it in casting horoscopes if planets are 72° or 144° or 135° apart.”\textsuperscript{18} These new Keplerian aspects remain an essential part of astrological practice.\textsuperscript{19}

Kepler’s support of the Ptolemaic link between the aspects and musical intervals continued after \textit{Mysterium Cosmographicum} for more than a decade, although he began

\textsuperscript{16} Kepler, \textit{The Harmony of the World}, 192.
\textsuperscript{18} Kepler, \textit{Mysterium Cosmographicum}, 135.
\textsuperscript{19} Most current astrological writings are found online. For a website that deals specifically with the aspects in modern astrology see www.cafeastrology.com, accessed May, 2011.
to refine his argument of how the two were connected, while introducing his theory on how celestial music relates to music’s influence over a listener. First, in a letter to his teacher Michael Maestlin, contemporary astronomer and mathematician, Kepler assigned a relative velocity to each planet. He then created ratios by comparing these speeds and linked them to musical intervals, rather than using the planetary aspects to create the intervals. The relative speeds are as follows: Saturn – 3, Jupiter – 4, Mars – 8, Earth – 10, Venus – 12, and Mercury – 16. Multiple musical intervals can be formed with these numbers, such as an octave between Mercury and Mars (16:8 – 2:1) and a major third between Earth and Mars (10:8 – 5:4).\(^{20}\) It is worth noting here that Earth in this system participates in the creation of *musica mundana*, whereas in pre-Copernicus conceptions, in which the planets rotate around a stationary earth, it is silent. The importance of this theory, which does not appear again in his later work, is the introduction of motion as a crucial element to Kepler’s theories on the Harmony of the Spheres, which continued to be central to his astronomical and musical writings. In the *Harmonices Mundi*, as will be demonstrated, planets in motion produce musical intervals, rather than the angle formed through a relationship of two planets at a specific moment.

Kepler continued to defend astrology and specifically the planetary aspects in his aptly titled *De Fundamentis Astrologiae Certioribus* (Concerning the More Certain Fundamentals of Astrology) in 1601. In a series of theses, Kepler outlined what he is confident about in astrology, what can be discarded, and then finally he made a series of predictions about the year 1602 regarding weather patterns, political and military issues, and the best dates to plant and harvest crops. The constant theme throughout the work is

the planetary aspects, and in theses 38 through 43 he outlined their connection to music.

Excerpts from these theses, which are available in an English translation published in

*Proceedings of the American Philosophical Society*, are as follows:

Thesis 38. Therefore since there are eight formative ratios of motions, there is in some action (or, as it were, motion) of heaven on the earth when it meets an intermediating ray of a star and they then come together on earth to form angles; thus the eight harmonic ratios will be expressed in the dimension of these angles. Now the ancients did not acknowledge more than five [of these angles] (commonly called Aspects): Conjunction, Opposition, Quadrature, Trine, and Sextile. But reason soon led me to add three more: quintile, biquintile, and sesquiquadrature, which many experiences have since confirmed.21

Thesis 39. The reason why the influence of pairs of planets is so strongly enhanced at the very articulations of their aspects [i.e., on the earth] I can attribute to no other cause than to an animate faculty, which, on the one hand, is capable of a geometric plan (which shapes the aspects), and, on the other hand, is in control of that body on which the influence is directed. For this [influence] does not come about because rays join together to form any angle. For pairs of rays form some kind of angle on the day before and the day after the aspects, and forever; but the influence is manifested finally when the angle possesses a harmonic ratio, or schema.[. . . ]22

Thesis 40. Now this faculty, which adds force to aspects, is not located in the stars themselves. For these aspects we are discussing touch upon the earth and are a pure condition flowing not from the formal motion of the stars, but from the accidental arrangement of pairs of stars with the earth. In the same way, then, that the spirit moving the body is located not in the object, but in the place where the idea of the object is displayed, just so is it necessary for this force, which makes the aspects powerful, to be located within that great globe earth, as it is in all the sublunary bodies. To be sure, every animate faculty is the image of God the Geometer in creation, and He is inspired to His task by this celestial geometry of aspects or harmony.23

Thesis 43. [. . . ] A peasant does not reason what geometric ratio one voice bears to another voice. And yet that external harmony of chords flows through the ears of the rustic into his mind and cheers the man. [And he is cheered] surely not by a

22 Ibid.
23 Ibid.
moderation of the blending of voices, nor by the soft caressing of his ears (for often the ears ache from a violent sound and nevertheless they delight in the harmony) nor for any other reason that could have been discovered up to now; but [he is cheered] for this reason only, which I shall demonstrate in my Harmonics [a reference to his then work in progress, *Harmonices Mundi*, which was completed in 1619]: because a certain geometric ratio produces beauty in the harmonies. [This geometric ratio] belongs to all the rest of the world and especially to powers that certain ancients called harmonies. Therefore, having advanced by these examples as if by certain steps, let us be bold to ascent even to this height: that we believe that there is in the earth a vegetative animate power, and in the animate power a certain sense of geometry that is formal and self-sufficient, because that power is of the species of animate faculties that – although it always inclines toward its own function – is nevertheless more stimulated when this [function] is refreshed as if with some nourishment of aspects. In the same way that the ear is stimulated by harmony to listen carefully and thus to hear much more, (seeking pleasure, which is the goal of feeling), so the earth is stimulated through the geometric concourse of vegetating rays (which we said warmed and humidified) so that it applies itself so much more diligently to its function of vegetation and exudes a copious supply of vapors.24

From Kepler’s arguments we learn that aspects are constantly striking the earth, but that it is only when they are at harmonic ratios that they exercise an influence over the earth, therefore revealing the divine nature of consonant musical intervals. There is no discussion on how the eight harmonic modes, presumably the church modes, are derived from the planetary motions or which modes correspond to which planets in *De Fundamentis Astrologiae Certioribus*, though that is a principal topic in the later *Harmonices Mundi*. Presumably Kepler drew from the long tradition dating back to at least Boethius, and revived by Gafurio in the fifteenth century, of a modal-planetary relationship that was reviewed in Chapter 4.25 The consonant aspects moreover have the ability to influence humans, especially when they realign in the position at the moment of one’s birth, primarily by giving confidence and joy to one’s work. Music possesses a

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24 Ibid., 103.
similar capacity to refresh a listener, and furthermore has the identical power as the aspects due to their shared geometric basis, while knowledge of music practice or theory is irrelevant in regards to this power as the human soul possesses an innate ability to perceive harmony. Music is, therefore, the only medium controlled by man which can have the same influence as the aspects.

Kepler’s continued support of the link between music and the planetary aspects contributed to the strong relationship that existed among the musical, scientific, and mystical professionals in Prague, a community in which Kepler took an active part as reflected by his intimate knowledge of music and astrology.26 Kepler wrote in 1605 that his duties at Rudolf’s court took over half his time.27 Years later in his Harmonices Mundi Kepler recounted how he frequently was present during musical performances at the court and even offered a transcription of a performance by a Turkish priest that used “remarkable, unusual, truncated, abhorrent intervals.”28 As was discussed in Chapter 4, the years of his tenure in Prague, 1600 to 1612, saw a peak of interest in hermetic music that I would contend was supported by Kepler’s espousal of a direct correlation between planetary aspects and musical practice.

Kepler later wrote he had adopted an axiom in 1606, quoted in Chapter 4, that “God the Creator either took the laws for ordaining the aspects from the harmonies of music within an octave, or attuned the ears of man, which are the judges of those

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27 Caspar, 152.
consonances, to the heavenly aspects.”

He then proceeded to test his maxim and in 1610 wrote that no longer held the view that the planetary aspects and musical harmonies were caused by the same archetype. In that year he published his *Tertius interveniens* (Third-Party Intervention) in response to an argument between Philip Feselius, who argued against the validity of astrology, and Helisaeus Roeslin, who argued for its worth. Kepler maintained a middle ground, again claiming that astrologers should give precedence to planetary aspects over using the zodiac signs when writing horoscopes and analyzing weather patterns, but argued against the ability to accurately predict future events such as when kings would die, or when military invasions would occur. Regarding music and the aspects, he wrote that he had spent sixteen years observing weather patterns from one day to the next, all while under the “fog of illusion” that the aspects and consonant intervals were perfectly matched both in number and power. He began to question this belief, however, after observing the great power wielded over the weather by the semisextile aspect, which has an angle of 30°. The ratio of the semisextile is 12:11, a troubling interval in music theory as it exists roughly half way between a minor second’s ratio of usually 16:15, and the major second’s ratio of 9:8 or 10:9. Kepler was disturbed by the great importance in astrology of the semisextile aspect, as its angle of 30° was understood as the basis of almost all of the Ptolemaic aspects, but its ratio of 12:11 was mostly insignificant in music theory. Kepler further observed that several other aspects

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held great influence over weather patterns on earth, but that their ratios did little to affect listeners of man-made music. For instance, he described the power of the decile and tridecile aspects, which are 36 and 108 degrees respectively, neither of which has a corresponding consonant interval. Therefore, because there were powerful aspects that had no counterpart in music theory, Kepler abandoned the notion that music and the astrological aspects were directly connected.

The significance of this shift in thought by one of the leading scientific minds of the time, despite receiving little attention in musicological literature, mirrored profound changes in the development of music philosophy. By disassociating the affective powers of music from astrological connections and musica mundana in general, Kepler had liberated music and allowed it to become more powerful. No longer was it bound to the ancient theoretical framework that had survived largely unchallenged for 1,500 years that music in some way derives its power over man’s emotions or physical actions through imitation of heavenly motions and divine ratios. Instead, music was free to affect man through careful application of modes, text settings, melodies, and harmonies. The seventeenth century saw the rise of the theory of the affections as a compositional tool in which music could express and influence emotions without having to recourse to mystical relationships. Kepler’s separation of the aspects from music’s power helped remove a facet of Renaissance music theory from the new aesthetic ideas that governed Baroque

musical practice. This is not to say that Kepler did not maintain a belief in connections between man-made music and the music of the spheres, and indeed he continued to call for composers to emulate the sounds of celestial motion, but instead of a direct correlation between planetary and musical power, he saw the two as manifestations of the same divine geometry, each with similarities and distinct differences. The next section of this chapter explores Kepler’s new understanding of celestial music.

*Geometrical and Celestial Music in the Harmonices Mundi*

By the end of the 1610s Kepler had already made many significant breaks with the musico-astrological writings of Ptolemy. He had increased the number of significant aspects from five to eight by integrating contemporary music theory. He claimed that the planets create musical intervals through their motion, rather than by aspects formed by their relative positions in the sky. The final shift was a move away from justifications of the consonances based on the power of specific numbers, as Ptolemy had done by attaching certain tetrachords to the aspects, as Zarlino had done in defining musical consonance, and as even Kepler had done in the *Mysterium Cosmographicum*, to validations produced through measurements and analysis. It is through this move, from number mysticism to proofs derived from new observations, that Kepler produced his grand vision of the Harmony of the Spheres.

Kepler began to outline the *Harmonices Mundi* as early as 1599. At that point he wrote a letter in which he revealed plans to write a five part work on the harmonies found in the heavens with the following sections: 1) A geometrical part on the constructible
figures, 2) An arithmetical part on the solid relations, 3) A musical part on the origins of the harmonies, 4) An astrological part on the origins of the aspects, 5) An astronomical part on the origins of the periodic motions of the planets. This basic plan is closely followed in the final version, published nineteen years later, except that the first section was divided into two parts and the second was grouped with the third.  

A primary goal that permeates the *Harmonices Mundi* is establishing why certain intervals are consonant and others dissonant. Kepler’s fascination with this issue began in *Mysterium Cosmographicum* where he wrote that there are eight consonances, but he had yet to determine why they were consonant and how humans perceived them as such. He wrote in *Harmonices Mundi* that he could not dispute the opinion of his ear which heard thirds and sixths as consonant, and would only accept a system in which they were proved to be so. He therefore challenged the Pythagoreans, claiming they “ordered their ears to be deaf,” by dismissing the thirds and sixths as dissonant because their ratios (4:3, 5:3, 6:5, 8:5) were not as simple as the other consonances (2:1, 3:2, 4:3). Ptolemy, who had also viewed thirds and sixths as dissonant, though he did ascribe an aspect to the minor third, wrote that the ears alone cannot judge intervals. Kepler, unwilling to betray his ears, sought another way to justify the intervals. To do so he produced two distinct, but related, methods of determining musical consonance. The first relied upon geometrical figures that could be manipulated to produce the ratios needed for the consonant intervals, and the second used accurate measurements of the motions of the planets. By using these two methods, Kepler argued that divine geometry is present in

34 Quoted in Walker, 48.
35 “Perception needs as its crutch, as it were, the educational assistance of reason.” Ptolemy, *Harmonics*, 4.
both music and planetary movements, and that the two are therefore eternally linked, but still independent manifestations of God’s design.

New to the tradition of music theory, and related to his addition of geometry to astronomy in *Mysterium Cosmographicum*, Kepler preferred geometry over arithmetic to justify musical intervals. In Kepler’s view the human mind is constructed to grasp quantities, but the signs that are called “numbers” are not quantities. Instead, quantity is that which can be measured, such as the amount of oranges in a basket or the sides of a square. Numbers are abstractions taken from geometry that have no real existence of their own. Thus, Kepler argued that the true cause of musical consonance cannot be found in comparing abstract numbers, but only when true quantities derived from geometry are analyzed.³⁶ Furthermore, God created the things of the earthly realm by using practical geometry and not abstract arithmetic, and a scholar’s use of it is a special form of worship to God. By reflecting the geometrical patterns in the world and the heavens, respect is shown towards God, and indeed this action makes us more perfectly created in His image.³⁷

In order to find the eight consonant ratios, Kepler inscribed the diameter and the recognized “constructible polygons” that can be made with only a compass and ruler (triangle, square, pentagon, hexagon, and octagon) into a circle.³⁸ After inscribing these shapes in a circle, an arc was removed between two points, creating three values that can be compared: the part (of the circle cut), the remainder, and the whole. Two of Kepler’s

³⁷ Ibid., 146.
shapes are shown below, followed by a chart created from Kepler’s description giving possible ratios and the corresponding musical intervals.

![Hexagon and square inscribed in a circle from Harmonices Mundi](image)

**Figure 5.1 Hexagon and square inscribed in a circle from Harmonices Mundi**

<table>
<thead>
<tr>
<th>Regular Polygon</th>
<th>Part</th>
<th>Remainder</th>
<th>Whole</th>
<th>Resulting Ratio</th>
<th>Musical Consonance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1:2</td>
<td>octave</td>
</tr>
<tr>
<td>Triangle</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2:3</td>
<td>fifth</td>
</tr>
<tr>
<td>Square</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>3:4</td>
<td>fourth</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2:4 = 1:2</td>
<td>octave</td>
</tr>
<tr>
<td>Pentagon</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>4:5</td>
<td>major third</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>3:5</td>
<td>major sixth</td>
</tr>
<tr>
<td>Hexagon</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>5:6</td>
<td>minor third</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>4:6 = 2:3</td>
<td>fifth</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>3:6 = 1:2</td>
<td>octave</td>
</tr>
<tr>
<td>Octagon</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>1:7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>6:8 = 3:4</td>
<td>fourth</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>5:8</td>
<td>minor sixth</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>1:2</td>
<td>octave</td>
</tr>
</tbody>
</table>

Kepler is thus able to find ratios for all the consonant intervals by using only constructible polygons. One ratio stands out, however, as not being consonant to the ear, 1:7, which is produced by cutting one part from the octagon and comparing it to the

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whole. The octagon is otherwise necessary as it is the only shape that provides the minor sixth, by comparing a remainder of five to the whole. Kepler justified using the octagon by implementing a rule that no ratio could be used if it can also been formed through an unconstructible polygon, such as the heptagon, which produces a ratio 1:7, part to whole. Therefore, the octagon itself is still admissible, because of its need to produce 5:8, but the ratio 1:7 can be ignored as invalid.40

It is in conjunction with this method of determining musical consonance that Kepler begins to reveal why he no longer believed that the aspects and intervals are inherently related, offering multiple examples of their differences.41 First is where the harmony is produced. In man-made music, harmony is formed knowingly by singers or instrumentalists. The planets, however, emit rays that form a harmony on the earth when two or more meet, but the planets themselves play no conscious role, and indeed the harmony cannot be perceived by the planets, but only by the earth. Second is how the harmony is received. Knowledgeable astronomers are able to perceive aspects with their eyes, but it has no inherent effect on their actions or emotions because the eyes do not possess the ability to transfer ratios into influence. Music, however, strikes the soul of all humans and creates an effect regardless of whether the listener has any knowledge of music theory or ratios. The earth does possess an ability to interpret the ratios emitted by the planets, however, and responds by emitting warm vapors and moisture. Third is how harmony is presented. In music, while in theory an infinite variety of tones exist, in practice voices jump from pitch to pitch to create harmony. The planets, however, are

40 The issue of the resulting 1:7 is also discussed in D. P. Walker, Studies in Musical Science in the Late Renaissance (London: Warburg Institute, University of London, 1978), 48.
constantly in motion and only happen upon harmonies occasionally and almost as if by accident when two planets momentarily form the proper angles.

Finally, and most significantly, is an inherent geometrical difference between the two systems.\(^{42}\) All of the musical consonances, as just discussed, can be found using a geometrical method of inscribing plane figures into a circle and comparing ratios produced by cutting the circle at certain points of intersection, and then stretching the cut parts into straight lines and comparing their lengths. The aspect ratios are also produced by comparing sections of a circle, but Kepler argued that the circle itself is never stretched taut as the planets are always in motion and the aspects are by definition angles. Whereas a straight line remains a straight line even if it is severed, a circle is no longer a circle once cut. As a final proof, Kepler offered this summation:

Why is the quartile and a half [sesquiquadrate, 135°, minor sixth], which is ennobled by its musical affinity, either omitted or considered humble [among the aspects], but the semisextile [30°, neutral second] which is a foreigner in music is not only inserted but is exhibited among the foremost? Because music does not determine the aspects, but geometry both types, the former, however, by one set of laws, the latter by another.\(^{43}\)

This does not mean that the planets do not create music as they travel, which was a belief Kepler never abandoned, but rather that man-made music does not require celestial intervention through mimicry of the aspects to have influence. Planetary music itself, however, still possesses all the attributes normally associated with music, such as intervals, scales, and chords. Kepler’s next task, therefore, was to identify these materials, beginning with planetary scales. He began by reproducing the scale he formed using the

\(^{42}\) See Ibid., 349-57.
\(^{43}\) Ibid., 354.
planetary aspects in *Mysterium Cosmographicum* by determining a lowest common factor of the ratios of musical consonance, which again is 120. The scale is as follows:  

<table>
<thead>
<tr>
<th>G</th>
<th>Bb</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Eb</th>
<th>E</th>
<th>G'</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>100</td>
<td>96</td>
<td>90</td>
<td>80</td>
<td>75</td>
<td>72</td>
<td>60</td>
</tr>
<tr>
<td>1:1</td>
<td>6:5</td>
<td>5:4</td>
<td>4:3</td>
<td>3:2</td>
<td>8:5</td>
<td>5:3</td>
<td>2:1</td>
</tr>
</tbody>
</table>

Conjunction Sextile Quintile Quartile Trine Sesquiquadrate Bi-quintile Opposition

The ratio of each pitch is determined in relation to G, thus the 80 value of D forms a perfect fifth with G (120:80 = 3:2). The ratios between intervals within the scale also form consonances. The major third C to E, for example, is 90:72, which reduces to 5:4.

This method is similar to Ptolemy’s in Book II of the *Harmonics*, in which he produced numerous scales based on ratios compared to 120 in various modes.  

In *Harmonices Mundi*, however, Kepler desired a scale based on the melodic movement of the planets as he no longer saw the correlation between aspect and interval. He dismissed this scale, therefore, as not useable for melodic purposes first because it does not contain the second or seventh scale degrees, and second because of wide variation in ratios for major and minor seconds. The half step Eb to E, for example, produces a ratio of 72:75 (24:25), while the half step from D to Eb produces a ratio of 75:80 (15:16). Similarly a whole step between D and E produces a ratio of 72:80 (9:10), while C to D produces 80:90 (8:9).

As Kepler viewed this scale as no longer valid, and because he still believed the planets themselves were musically arranged, he had to determine a new way of assigning the movements of the planets a musical value. To do so he first outlined what he believed

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46 Kepler, 178-82.
to be the ratios of ideal musical scales, as they would be more easily discovered in the heavens. He did not turn to equal temperament to produce matching half steps, which had been advocated by Vincenzo Galilei as Kepler was well aware, but instead he employed a system that allows for more precision while still favoring just thirds.\(^{47}\) He used 720 for the number designating tonic, instead of 120, allowing for more specific ratios. He provided no explanation for why he chose the new number, although later he stated that the sun’s apparent size is 1/720 of the entire ecliptic circle of Saturn, and the number 720 itself proves be an important number in Kepler’s harmonic construction of the universe.\(^{48}\)

His scales, soft and hard, are as follows, with ratios representing the distance between consecutive tones rather than the distance of each tone from the starting tone of G:\(^{49}\)

<table>
<thead>
<tr>
<th></th>
<th>G</th>
<th>A</th>
<th>Bb</th>
<th>C</th>
<th>D</th>
<th>Eb</th>
<th>F</th>
<th>G'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9:8</td>
<td>16:15</td>
<td>10:9</td>
<td>9:8</td>
<td>16:15</td>
<td>10:9</td>
<td>9:8</td>
<td></td>
</tr>
<tr>
<td>720</td>
<td>640</td>
<td>600</td>
<td>540</td>
<td>480</td>
<td>450</td>
<td>405</td>
<td>360</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>G</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9:8</td>
<td>10:9</td>
<td>16:15</td>
<td>9:8</td>
<td>10:9</td>
<td>16:15</td>
<td>9:8</td>
<td></td>
</tr>
<tr>
<td>720</td>
<td>640</td>
<td>576</td>
<td>540</td>
<td>480</td>
<td>432</td>
<td>405</td>
<td>360</td>
<td></td>
</tr>
</tbody>
</table>

Significantly, Kepler’s scales reflect recent debates in music theory and are not constructed using Pythagorean intonation, but rather the more recent just intonation. Pythagorean tuning had been under attack for more than a century, as it became less usable in a musical system in which thirds and sixths were commonly employed by composers.\(^{50}\) In Pythagorean tuning the scale is constructed by linking together perfect

\(^{47}\) Gingerich, 56.
\(^{48}\) Ibid., 57.
\(^{49}\) For a discussion of Kepler’s distinction between hard and soft scales see Michael Dickreiter, *Der Musiktheoretiker Johannes Kepler* (Bern: Franke, 1973), 160-70.
fifths at the ratio of 3:2 until all twelve notes are present. When the circle is completed
the last note and the first note do not match, resulting in a much wider final fifth, known
as a wolf fifth. It is a tuning system which favors fifths in related keys and was suitable
for Western music in the Medieval period. It did not work as well, however, as a way to
tune instruments once thirds and sixths became common in music around 1450, as it
would cause these newer intervals to sound dissonant. A major third in a Pythagorean
scale equals 81:64, obtained by squaring 9:8, the interval of a whole tone. Kepler’s
scales, similar to modern day minor and mixolydian, are instead in just intonation as they
are created by first setting the thirds and sixths, which maintain their perfect ratios
compared to G.\textsuperscript{51} Kepler’s preference for just intonation, given here without much
explanation, appears later in the context of heavenly harmonies.

The next step for Kepler was to discover musical intervals in the motions of the
planets. Using the highly accurate numbers of his one-time colleague Tycho Brahe,
Kepler determined the speed of each planet at its fastest and slowest point, called the
perihelion (closest to the sun) and the aphelion (furthest from the sun). These numbers
can then be compared two ways; either the fastest and slowest speeds from one planet are
contrasted, or the speeds for neighboring planets are compared. In making these
evaluations, Kepler was often forced to round his figures slightly in order to produce a
ratio that matched a consonant musical interval, but he justified this by claiming that the
measurements are not entirely accurate, and must in reality orbit at his rounded speeds
due to the perfection of God’s creation. Table 5.2 provides the speeds in seconds at
aphelion and perihelion and the interval each planet is capable of producing on its own.

\textsuperscript{51} In Kepler’s soft scale 720:600 (G-Bb) reduces to 6:5, and in the hard scale 720:576 (G-B) reduces to 5:4.
Included are both the actual measurements as reported by Kepler as well as his adjustment to match musical intervals.

<table>
<thead>
<tr>
<th>Planet</th>
<th>Aphelion/Perihelion</th>
<th>Actual Speed</th>
<th>Rounded Speed</th>
<th>Ratio</th>
<th>Musical Consonance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturn</td>
<td>A</td>
<td>106</td>
<td>108</td>
<td>4</td>
<td>major third</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>135</td>
<td>135</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Jupiter</td>
<td>A</td>
<td>270</td>
<td>275</td>
<td>5</td>
<td>minor third</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>330</td>
<td>330</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Mars</td>
<td>A</td>
<td>1574</td>
<td>1521</td>
<td>2</td>
<td>perfect fifth</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>2281</td>
<td>2281</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Earth</td>
<td>A</td>
<td>3423</td>
<td>3448</td>
<td>15</td>
<td>semitone</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>3678</td>
<td>3678</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Venus</td>
<td>A</td>
<td>5690</td>
<td>5690</td>
<td>24</td>
<td>diesis (a small semitone)</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>5857</td>
<td>5927</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>A</td>
<td>9840</td>
<td>9840</td>
<td>5</td>
<td>octave plus</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>23040</td>
<td>22440</td>
<td>12</td>
<td>minor third</td>
</tr>
</tbody>
</table>

Venus and Earth have the smallest musical range, while Mercury has the largest. Kepler goes on to find more musical intervals by comparing the motions between planets. The passing motions of Saturn and Jupiter form an octave, for example, while the motions between Mars and Earth constitute a fourth.\(^{53}\)

Using this information, Kepler was able to determine how the planets can form musical scales, shown in Example 5.1. Saturn, because it is the slowest planet, is given the pitch G. Earth is also placed on G, five octaves higher, because of its aphelion speed.

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\(^{53}\) Both with substantial rounding, which does not seem to bother Kepler.
The speeds of the other planets are then compared to 1 minute, 46 seconds, the speed of Saturn at its aphelion, from which Kepler constructed a hard scale. The soft scale is constructed almost the same way, but it is based off of Saturn’s perihelion of 2 minutes, 15 seconds.\textsuperscript{54}

\textbf{Example 5.1 Scales Based on Planetary Speed.}

A. Hard

\begin{center}
\includegraphics[width=\textwidth]{hard_scale}
\end{center}

B. Soft

\begin{center}
\includegraphics[width=\textwidth]{soft_scale}
\end{center}

By constructing his scale in this manner Kepler once again revealed his preference for just intonation. He gave numerous examples of how the ratio 6:5, the minor third, can be properly found in the scale constructed by the heavens, and is indeed the most important factor when observing the heavenly scale. For example, the ratio of G to Bb (Saturn to Jupiter, both at perihelion) is 2160:1800 and B to D (Jupiter at aphelion

\textsuperscript{54} Kepler, \textit{The Harmony of the World}, 432-37.
to Jupiter at perihelion) is 1728:1440, both of which reduce to 6:5, instead of the Pythagorean 81:64.

Having demonstrated that the planets do, as expected, produce a heavenly scale as they move through the universe, Kepler moved to the climax of his treatise, an explanation of celestial polyphony. In his model most planets are capable of performing numerous pitches on their own, but it is when they sing out together that God’s great work is most glorified. To determine how the planets might sound harmoniously, he first identified which pitches each planet is capable of producing. Figure 5.2 contains Kepler’s notation for each planet, with the ranges taken from the aphelions and perihelions as given in Table 4. Kepler did not claim that each planet moves smoothly from one pitch to another, but rather produces a continuous sound, much like a siren as D. P. Walker has explained.  

![Figure 5.2 The Musical Range of the Planets](image)

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55 Walker, 59.  
Kepler also assigned different modes to each of the planets, but not in the traditional astrological manner. He had already decided that musical harmonies did not relate directly to *musica mundana*, and thus they could not influence specific events on earth.\(^{57}\) He therefore assigned the modes to specific planets for purely musical reasons related to range or pitch combination, rather than a supernatural power associated with a specific planet as was done since at least Boethius. Subsequently each planet receives two modes as their ranges are large enough to encompass musical material from more than one. Mars, for example, was given the Lydian or Hypolydian mode starting on F because its aphelion “hints” at that pitch. Traditionally Mars was associated with Phrygian mode, starting on E, because of their shared association with severity and rousing anger, as reviewed in Chapter 2.\(^{58}\) Table 5.3 contains Kepler’s assignment of planets to the musical modes, compared to the most common traditional associations.

<table>
<thead>
<tr>
<th>Planet</th>
<th>Kepler’s Mode</th>
<th>Traditional Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturn</td>
<td>Mixolydian or Hypermixolydian</td>
<td>Mixolydian</td>
</tr>
<tr>
<td>Jupiter</td>
<td>Dorian or Hypodorian</td>
<td>Lydian</td>
</tr>
<tr>
<td>Mars</td>
<td>Lydian or Hypolydian</td>
<td>Phrygian</td>
</tr>
<tr>
<td>Earth</td>
<td>Phrygian or Hypophrygian</td>
<td>-</td>
</tr>
<tr>
<td>Mercury</td>
<td>All indifferently</td>
<td>Hypophrygian</td>
</tr>
<tr>
<td>Venus</td>
<td>Phrygian or Hypolydian</td>
<td>Hypolydian</td>
</tr>
</tbody>
</table>


The final piece of Kepler’s celestial music is determining what chords could be sounded by all the planets simultaneously, which he names the “universal harmony.” Due to their limited musical ranges, meaning they can only sound one or two pitches, any chord constituting all six planets must first account for the Earth and Venus. It should be noted that in Kepler’s chordal constructions, despite the notation that he provides shown in Figure 5.2, Venus can sound either an E or Eb, while Earth can sound only a G.\textsuperscript{60} Thus, any chord must contain a G and either an E or an Eb, and therefore the four chords Kepler composed are E minor, C major, Eb major, and C minor. The first two he labeled as hard due to the E natural, and the second two are soft due to the Eb’s. His construction is shown in Figure 5.3.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{universal_harmonies.png}
\caption{Universal harmonies of the hard kind}
\end{figure}

\textsuperscript{60} In Kepler’s planetary scales Venus is given only an E and Earth is given G and Ab. There is unfortunately no explanation why he altered those notes to produce the celestial chord; this was likely the result of an oversight.
The hard chords are E minor 6/3 and C major 6/4, and the soft chords are Eb major 6/3 and C minor 6/4. Because of Saturn’s position as the lowest pitch on G, a result of it having the slowest speed, all four heavenly chords are in inversion. Most striking is Kepler’s use of a 6/4 chord to represent an infinite consonance when almost all theorists thought of that chord as a dissonance due to a fourth created between the two lowest pitches. This is another indication of Kepler ignoring ancient theoretical doctrine and using only his own observations to determine the universal harmony.  

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62 Walker reports that Kepler had defended the 6/4 chord as a consonance in a letter, possibly because it is pleasing to the ear, but unfortunately the correspondence has been lost, 58.
Kepler’s cosmology these heavenly chords are extremely rare as the motion of the planets means that they are all performing constantly changing pitches. Kepler pointed out that it is uncommon for two planets to move into a position of consonance, and virtually impossible for all six to simultaneously reach consonant intervals. He speculated that the only time the pure celestial harmony sounded was at the moment of creation, and it would likely only sound one more time, on the day of redemption.63

The final question that Kepler sought to answer was, how do humans receive music, and why are certain intervals pleasing to them? By divorcing musical intervals from the planetary aspects, Kepler was forced to search for another explanation of music’s influence over man. For him, consonant intervals are not inherently pleasurable, rather they must first be captured by the ear and transferred to the soul, where they are experienced and confirmed as beautiful by a measuring device placed by God in every human.64 This receptor contains all of the constructible polygons, the shapes used by Kepler to determine which intervals are consonant. Pleasure and then influence is created when the proper ratios are received by the soul, which, much like the earth soul receiving the aspects, is able to compare sensory input with the geometrical figures to distinguish pleasurable things from those that are not.65 It is worth noting that Kepler’s explanation of music’s influence completely ignores the textual element of composition at a time when interest in music’s ability to properly express the meaning of a text was at a peak. Kepler goes as far as instructing a composer seeking to write a musical rendition of the

64 “That faculty which notices and recognizes the noble proportions in sensible things…is a lower faculty of soul giving form to the senses.” Ibid., 307.
65 Ibid., 321.
movement of the planets that, “The royal psalter and the other sacred books will be able to supply a suitable text.”\textsuperscript{66} Compared to Joachim Burmeister’s instruction that “the text itself will present the rules,” in \textit{Musica Poetica} of 1609, the dismissal of the text’s importance by Kepler is striking.\textsuperscript{67}

The method Kepler utilized in forming his theory of the harmony of the spheres made a significant break with Ptolemaic tradition by employing astronomical data rather than astrological or mystical numerology to discover celestial music. Though his own work had disproven many long-lasting tenets about \textit{musica mundana}, he remained convinced that it existed. He thus used planetary speeds instead of positions in the zodiac to find musical intervals, he assigned planets to the traditional modes by exploring their changing velocities rather than their supernatural qualities, and he identified celestial chords that many contemporary theorists would have considered dissonant. It is perhaps striking to the modern reader that he used music as a vehicle to prove new astronomical theories that are given for the first time in \textit{Harmonices Mundi}; his celestial music, however, was no longer one of mysticism, but rather the product of science.

\textit{Kepler and Music Theory at the Birth of the Scientific Revolution}

Over the past fifty years numerous scholars have attempted to show that music played a more significant role than was commonly recognized in the development of science around the turn of the seventeenth century. Music and science were traditionally closely bound disciplines in the early modern era. Arthur Koestler has argued that the

\footnotesize{\textsuperscript{66} Kepler, \textit{The Harmony of the World}, 441.  
\textsuperscript{67} Quoted in Dietrich Bartel, \textit{Musica Poetica: Musical-Rhetorical Figures in German Baroque Music} (Lincoln: University of Nebraska Press, 1997), 23.}
Pythagorean discovery that the pitch of a note is dependent on the length of a string and that the consonant intervals are caused by simple mathematical ratios “was epoch-making,” because for the first time man reduced a quality to a quantity, which mathematized a part of the human experience and was the first step towards a scientific understanding of the universe.68 Music maintained its relationship with scientific disciplines by being grouped with arithmetic, geometry, and astronomy in the Greek quadrivium that remained the standard model of education into the early modern period.69 In Kepler’s time nearly all scholars who would later be referred to as scientists received extensive training in music theory and many in the practice of singing.70 One of the strongest advocates for music’s important influence on science in the early seventeenth century was historian of science Stillman Drake, who made the bold proclamation that “the origins of the experimental aspect of modern science are to be sought in sixteenth-century music.”71 In Drake’s work, which concentrated primarily on the scientific achievements of Galileo Galilei and the research of his father, music theorist Vincenzo Galilei, he attempted to show how sixteenth-century experiments in musical tunings were the first significant strides towards a discipline of science based on quantitative investigation rather than qualitative speculation.72 More recently musicologist Claude V. Palisca took up this charge by demonstrating that Vincenzo was in fact an experimental

68 Koestler, 28.
72 See also Stillman Drake, “Music and Philosophy in Early Modern Science,” in Music and Science in the Age of Galileo, 3-16.
scientist and that it was a renewed interest in the music of the Greeks that stirred his interest in pursuing musical science.\textsuperscript{73}

Little work, however, has been done on how Kepler was influenced by music. Scholars have pointed out that without an obsession with harmony he would not likely have produced his \textit{Harmonices Mundi}, and therefore not discovered his third law.\textsuperscript{74} This is undoubtedly a significant observation, but the concept of harmony in Kepler’s time meant far more than the sound produced by two or more musical pitches. It encompassed aspects of geometrical comparisons, the functioning of the human body, the movement of planets, and meteorological changes. Music as it is conceptualized today was the tool used to demonstrate and analyze these other aspects because it provided something that could accurately be measured and demonstrated. In \textit{Harmonices Mundi}, though, Kepler looked specifically to music theory and practice, even providing an extensive summary of the two, and in so doing takes the concept of \textit{musica mundana} far more literally than many of his contemporaries and predecessors.\textsuperscript{75} For Kepler in \textit{Harmonices Mundi} it was in actual measurable music theory that the keys to understanding the universe are found, not in a mythical relationship between harmony produced equally by both the planets and musicians, as he himself had argued in his earlier work.

Kepler focused his work in astronomy and astrology on explaining three characteristics of the planets: their size, number, and motion. He also professed a life-

\textsuperscript{73} Claude V. Palisca, “Was Galileo’s Father an Experimental Scientist?” in \textit{Music and Science in the Age of Galileo}, 143-52.


\textsuperscript{75} A possible exception is English writer Robert Fludd. Kepler’s debates with Fludd have recently been examined by Wilhelm Schmidt-Biggernann in “Der Streit um Kosmologie und Harmonie Zwischen Robert Fludd und Johannes Kepler,” in \textit{Buxtehude jenseits der Orgel}, ed Michael Zywietz (Graz, 2008), 118-50.
long obsession with harmony being present in the heavens, although he was not satisfied by any explanation that had been previously offered. An astronomical account, for Kepler, must explain both the physical realities of the planetary motions, and also demonstrate the harmonic balance of the universe that was proof of God’s divine hand. This is partly why soon after its publication he discounted his own polyhedral model from *Mysterium Cosmographicum*. While in this work he was able to link the planetary aspects with specific musical intervals, and even expanded astrological methods by adding thirds and sixths to the Ptolemaic system, no comprehensive musical system in the universe could be found. Three years later he again found musical intervals in the planets, in the letter to Michael Maestlin, by analyzing their relative speeds, but these ratios could not easily be combined to form musical scales and chords so he abandoned the figures and continued to search.

Two issues of frequent debate in contemporary music theory aided Kepler and had a significant influence on his work: those on just intonation and the use of polyphony. By Zarlino’s time it had been suggested that the third be preferred over the fifth when forming the scale, and he claimed that good singers, when unaccompanied, used just intonation because it was more natural. His theory that just intonation was in some way more innate than other tuning systems was a cause of great frustration among other theorists, such as Vincenzo Galelei, his former pupil, but Kepler eventually adopted the method and, as shown earlier, incorporated it into his discussion of man-made and celestial music. Music was therefore used as scientific evidence in two ways: first to confirm his theories based on new astronomical data that he had recently acquired form

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76 See Walker, 19.
Tycho Brahe, and second to prove these theories to his reader by means of demonstrating celestial harmony. His primary method was to produce musical intervals and scales from his arrangements, and for this he turned to just intonation which he assumed is a preference shared by God.

You will now therefore wonder no more at the establishment of the most excellent order of the sounds or steps in the musical system or scale by men, since you see that all they are doing in this respect is aping God the Creator, and as it were acting out a particular scenario for the ordering of the heavenly motions.77

Kepler thus demonstrated that the “excellent order of the sounds,” i.e. the music he revealed in just intonation, is found in both heavenly and earthly music. He also used just intonation to confirm his theory that the planets do not orbit at uniform speeds by showing that heavenly music is created when speeds at aphelion are compared to those at perihelion. The distinction between the two velocities was crucial for his planetary laws and is one of the foundations of modern astronomy.

Kepler was also greatly influenced by contemporary polyphonic practice. Permeating the Harmonice Mundi, and in contrast to some contemporary musical trends such as those stirred by the Florentine Camerata, is a strong belief that polyphony is the musical style best suited to influence men and mirror God’s creation. Zarlino, like many theorists, sought a return to ancient performance styles that supposedly placed emphasis on text over complicated musical structures. He wrote in book two of Le istitutioni harmoniche, “We can see that poetry is so closely joined with music that whoever would separate the two would be left, as it were, with a body separated from its soul,” and

therefore he called for more use of monody over contrapuntal techniques.\textsuperscript{78} Kepler maintained that it is with polyphonic music, however, than man can influence another man through imitation of the planetary motions. He called on composers to follow after him and resound the harmonies of the heavens, particularly in six voices. In a note in the margins near the end of book five, he wrote,

\begin{quote}
Shall I be committing a crime if I demand some ingenious motet from individual composers of this age for this declaration? The royal psalter and the other sacred books will be able to supply a suitable text for it. Yet take note that no more than six parts are in harmony in the heaven. For the Moon warbles her solo independently, attending the Earth as at a cradle. Compare the symbols: in making the book, I promise to be a zealous overseer of the six parts. If anyone expresses more closely the heavenly music described in this work, to him Clio pledges a wreath, Urania pledges Venus as his bride.\textsuperscript{79}
\end{quote}

Kepler further stated that modern man should use polyphony, a skill unknown to the ancients, to mimic the heavens, which move eternally from dissonance to prescribed resolutions to mark the passing of time. Humanity had been given the ability in polyphony to mimic these motions and delight in the pleasure they bring. In so doing, Kepler wrote, man can partially experience the satisfaction that God receives when listening to his created heavenly polyphony.

His belief that only polyphony can properly represent the music of the heavens is in direct contrast to Ptolemy and pulled Kepler away from the ancients and towards the new astronomy. The Ptolemaic conception of \textit{musica mundana}, given in Book III of \textit{Harmonics}, is a collection of monophonic musics, for which each planet is given its own


\textsuperscript{79} Kepler, \textit{The Harmony of the World}, 441.
mode and each planetary motion was likened to a movement of a melody.\textsuperscript{80} For Kepler, the universe sings out in one single polyphonic harmony in which each planet participates. It was this striving to reveal God’s hand and discover the universe of musical balance, verses one of independent melodies, that led Kepler to write \textit{Harmonices Mundi} and the radical astronomical concepts it contained.

Whether Kepler in turn influenced polyphonic practice in the early seventeenth century is doubtful. There is little reason to believe that many contemporary composers of his time would have read through the lengthy and often confusing \textit{Harmonices Mundi}, the first two books of which are primarily geometrical theory. The timing of its publication, one year after the first battles of the Thirty Years’ War that embroiled the lands in which Kepler worked and was best known, likely impeded its transmission. Historians of science have already made clear that \textit{Harmonices Mundi} was Kepler’s least known significant work among the scientific community, and not until Newton’s developments upon it fifty years later did it gain the recognition for the groundbreaking treatise that it was.\textsuperscript{81} Musically Kepler’s tome was likely seen as conservative and even old-fashioned for its blatant preference for polyphony over monody. Perhaps when he conceived of the work, in the last years of the sixteenth century, it could have been viewed as less outmoded, but by 1618 some progressive composers had largely turned to monody as the musical texture most appropriate for innovative techniques. While \textit{Harmonices Mundi} may have exerted some influence on the few remaining alive

\textsuperscript{80} Ptolemy, \textit{Harmonics}, 148ff.
\textsuperscript{81} Werner, 879.
composers already familiar with his work, there is little evidence that it was immediately as consequential for the musical world as it eventually was for astronomy.

Nearly a century later, however, it appears as if Kepler’s work did hold significant influence, especially with German music theorists, and while the effect of Kepler’s work on Baroque music is beyond the scope of this study, it is mentioned here with the hope that it will stir further research. Kepler’s insistence that the cause of music’s power lies with its mathematics was echoed by German music theorists who continued to wrestle with the question of how music specifically effects the emotions of the listener. Dietrich Bartel has argued that long after Italian music theorists abandoned music’s speculative mathematical foundation German theorists continued to write extensively on the topic.  

A mathematical understanding of music supported the Lutheran conception of music’s unique edifying effect by allowing theorists to demonstrate its rational, and therefore Godly, construction. Kepler’s explanation fit into this tradition, though his method of ignoring text when attempting to define music’s affect seems to be unique. Arguments similar to Kepler’s explanation of a measuring device found in the human soul were presented numerous times, though usually without the complex geometrical explanation given by the astronomer. Wolfgang Caspar Printz wrote in 1696 that authority must still be given to the ratios of music versus the sense of hearing, and Johann Kuhnau claimed in 1700 that, “music belongs among the mathematical sciences and is therefore

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82 Bartel, 59-64.
axiomatic.” Gottfried Leibnitz wrote in 1712 that “music is a hidden arithmetical exercise which ‘counts off’ subconsciously in the soul.”

The German theorist that was the most influenced by Kepler was Andreas Werckmeister, whose writings on counterpoint have been cited as having great influence on J.S. Bach. Werckmeister is often falsely credited with developing equal temperament, though he did create a tuning system so near to it that it can be seen as the penultimate arrangement. His early writings, especially Musicae mathematicae hodegus curiosus of 1687, discuss the divine nature of canon and counterpoint as they reflect the ordering of the cosmos. He, like Kepler, saw a more powerful and divine music in polyphony than monophony, later writing that astronomical principles are “the key to all kinds of canons and double, triple, and quadruple counterpoint.”

Later in his work Kepler’s influence is more specifically cited as Werckmeister gave credit in his Musikalisches Paradoxon-Discours of 1707 to Kepler for providing geometrical proof that nature and the universe are arranged by God according to the rules of harmony. He also reviewed Kepler’s planetary scales and argued that the heavenly bodies produce musical sounds as they move, which he used as a starting point to discuss a well-tempered tuning system. Werckmeister seems to have been further influenced by Kepler’s explanation that music holds power over man due to the geometric receiver in the soul. Music that strays too far from the divine proportions, he wrote in 1700, confuses

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83 Ibid., 25f.
84 Ibid., 17.
87 Werckmeister, Harmonologia musica, 102.
the ear and is heard as chaotic, while music that reflects godly ratios is recognized by the
soul and resonates as such. Finally, in 1707 he wrote, “for the same musical proportions
constitute the human spirit and body, as we have heard. When a person perceives these
proportions through sounding tones, his likeness is thereby correspondingly held before
him, providing him with pleasure.”

Conclusion

Codified in the first century AD, Ptolemy’s conception of an intimate relationship
between the astrological aspects and musical intervals survived nearly 1,500 years before
one of its strongest supporters, Kepler turned against it and, while founding modern
astronomy, split the two apart to never be joined again. In so doing Kepler participated in
a trend of humanizing music by granting the composer full freedom to affect emotions
and placing within the listeners themselves the means to judge music. Though Kepler’s
music theory was still fully cosmological and relied upon an inherent belief in the
correspondence between the microcosm and macrocosm, his work helped to remove an
astrological barrier between Renaissance and Baroque conceptions of music.

88 Bartel, 16.
Epilogue

The interactions between music and the mystical and hermetic communities of the Renaissance have received increasing attention over the past several decades. Beginning with an appreciation of the importance of the Music of the Spheres to astrologers and astronomers, and continuing to the use of music by alchemists and physicians, several scholars have recently discussed how music participated in scientific or magical endeavors. It is now understood that music in the Renaissance served a broad purpose, and was a crucial element of the hermetic philosophy that helped to shape the thinking of the period. These studies do not, however, explore the question that spurred initial research for this project: did composers knowingly and purposively integrate magical or hermetic elements into their music?

My efforts to answer this question led to music from the court of Holy Roman Emperor Rudolf II. While working to determine a musical language of the court and its place within the intellectual climate of Prague, I soon discovered a disconnect between musicological scholarship and the work done by historians of science, art, religion, and culture. Whereas scholars in other fields almost always frame their histories around the uniquely pervasive hermetic philosophy in Prague, music historians have largely ignored this element of the city, allowing it to play only a cursory role when particular compositions defy explanation. This methodological disparity is particularly striking...
because of the recent work done to show music’s role in hermetic philosophy. A clear line of inquiry therefore presented itself, due to new understandings of music and hermeticism, and the distinctive, though under-researched, musical climate in Prague. In this dissertation I have tried to bridge the gap between musicological and other types of historical research, because by not acknowledging hermetic thinking in our appraisals of music at the court, we reduce our ability to communicate with other disciplines, and limit our understanding of music’s place in the intellectual milieu of the city.

I contend that the evidence presented in this dissertation, in the forms of poetry, dedications, artworks, treatises, letters, and the musical compositions themselves, reveals that composers in Prague were not only aware of contemporary hermetic philosophy, but at times actively incorporated specific elements into their musical works. Uncovered are examples of such practices by Monte, Zanotti, Luython, and Zangius, which combine to demonstrate a conscious effort to either musically depict the hermetic chain of similitudes or actively draw on divine power. Moreover, I have striven to show that writings by the leading thinkers in Prague, in particular Johannes Kepler, disclose a more intimate knowledge of contemporary debates of music theory and practice than previously has been recognized.

Beyond these specific case studies, however, there is still the broader question of how hermeticism influenced musical philosophy at Rudolf’s court as a whole. An investigation into this issue requires its own study, but I will offer a few preliminary thoughts. When the music of Prague is compared to other compositional styles around the turn of the seventeenth century, and specifically contemporary Italian music, the rigid
engagement with polyphony and, as far as I have been able to determine, complete absence of monody is striking. The new musical styles of Italy were known to Rudolf’s court musicians, since many of them had trained and worked in Italy before moving to Prague (some as late as the early 1600s), and correspondence between Prague and Italy was frequent. Johannes Kepler also gave accounts that the leading music theorists of Italy were known and read in Prague. The desire to revive ancient Greek musical practice that in part drove Italian scholars, poets, and musicians to develop new styles, furthermore, was a shared element in hermetic philosophy, especially among the physicians and alchemists of Prague.

And yet the characteristics of the progressive Italian style do not appear in the music of Rudolf’s court. There are many explanations for this lack of adoption, including the desires of patrons, available performance spaces, and a possible lack of interest in musical drama; but perhaps the stylistic reticence by the composers of Prague was caused by progressivism of another kind, albeit one that was short lived and tied to the fate of the Emperor. Supported by the keen hermetic atmosphere, it was a style that was embroiled with striving towards a more perfect harmony that would correctly simulate the macrocosm either for the glory of God or to affect earthly people and events. Polyphony was seen as better suited for a musical representation of the hermetic vision of the universe. Kepler called for six-voice polyphony to mimic the planets, while Maier wrote three-voice canons to supplement his alchemical procedures. The composers of Prague may have sought a similar revival of the powerful and influential music of the Greeks, but rather than reproduce Greek monody, perhaps their solution was to embody
polyphonically the hermetic system of correspondences. Research into this area must await further study, and I hope that the groundwork laid here regarding hermetic music in Prague will facilitate such an endeavor.
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