

THE CONCEPT OF HARMONY IN JOHANN CRÜGER'S THEORETICAL TREATISES:  
A PRACTICAL DISTILLATE OF SEVENTEENTH-CENTURY MUSICAL IDEAS

by

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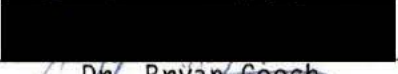
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#### ABSTRACT

Johann Crüger (1598-1662) wrote five theoretical treatises that are classified as instruction manuals. These works, entitled: *Præcepta Musicae Practicae* (1625), and an expanded version republished in 1650 called *Quæstiones Musicae Practicae; Kurtzer und verständlicher Unterricht* (1625); *Synopsis Musica Continens* (1630); *Synopsis Musica* (1654); and *Musicae Practicae Præcepta* (1660); deal with a great many musical concepts prevalent during the seventeenth-century in Western Europe. The harmonic concept was being revolutionized at this time, and Crüger's manuals give concise explanations and understandable musical examples of this issue.

The study is divided into six major sections. A general background is given about Crüger, his works, and the musical, political, and social world he lived in. The term "harmony" will be defined and discussed in relation to modal and triad theory. The general concept of word/harmony relationship and the practice of Ornamentation and figured bass will be included so as to give explanations of performance practices of the day.

Investigation of these treatises reveals that Crüger believes the triad found within the species of the modal scales forms the basis for composition. Harmony is conceived of modally on a triadic basis.

It is hoped that this study of Crüger's concept of harmony will enlighten our knowledge of seventeenth-century pre-tonal composition and performance practices based on triadic harmony.

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## INTRODUCTION

Johann Crüger (1598-1662) wrote five theoretical treatises that span his lifetime. The first of these treatises was written in 1625 and the last in 1660. These works have been classified as instruction manuals, or singing tutors for the German Lateinschule (Latin schools). Although they were written expressly for students in Germany, they encompass a great many complex musical concepts that were prevalent throughout all of Western Europe. These tutors were written in simple Latin, German, and Greek and are filled with many practical musical examples. Crüger clarifies many musical concepts by giving brief explanations and coupling them with practical musical references. Crüger borrowed many of his ideas and examples from fellow musicians and theorists. However, this does not invalidate his work. Rather, his works typify prevailing concepts and summarize the popular ideas of his day. These treatises therefore, become valuable to the modern reader as a source of early seventeenth-century musical practices in Germany.

German music theory during this period embodied both the musical ideas of Northern Europe and the humanistic ideas of Italy. The medieval traditions as well as Greek philosophical ideals were incorporated into the music theory called *musica theorica*. The concept of "Harmony" had been discussed in relation to music from the time of Plato, and the modern Italians were trying to return to the ideals set forth by

the ancients. Not all composers agreed on a definition of the term harmony. Certain trends of thought, however, tended to dominate the early seventeenth-century scene. Crüger spent much effort in describing what harmony was. He thought the concept so important that he, in fact, titled his treatise *Synopsis Musica Continens . . .* (1630) as a "Musical Synopsis Containing a System For Arranging and Composing Harmonic Music."<sup>1</sup> One of the central concepts, therefore, in Crüger's theoretical works is the definition of harmony.

The harmonic concept was being revolutionized in the early seventeenth-century. Many divergent and confusing thoughts were aired by theorists. Practical manuals or tutors, called *musica prattica*, were sources of simplified explanations of the complex doctrines of *musica theorica*. Harmony referred to a number of related areas. Theorists talked of the harmony of diverse sounds, the harmony of word/music relationships, the harmony of the concentus of sounds, and the harmony of the spheres or Microcosmos and Macrocosmos. Crüger also talked of these issues, but rather than philosophizing only, he wrote simple, concise explanations and then followed them with understandable musical examples. Crüger's tutors were by no means unique, but they are clearly written, thus making them a good choice for research in Baroque theory.

Another reason for choosing Crüger as a theorist to study is the fact that his own compositions enjoyed great popularity in his day as

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<sup>1</sup>Johann Crüger, *Synopsis Musica Continens Rationem Constituendi & Componendi Melos Harmonicum . . .*, (Berlin: J. Kall, 1630), title page.

well as being still in print today. His theoretical works were not published nor reprinted after the turn of the eighteenth-century so they become difficult to obtain for research purposes. A list of the treatises is given in the Appendices. This list includes the title pages of the five treatises and their reprint edition, as well as a list of the contents of each treatise. The chapter headings are translated below the original titles. The reader should refer to the Appendices whenever works by Crüger are mentioned and further clarification is needed in relation to content.

Little contemporary research has focused solely on Crüger's ideas. However, he has been mentioned by notable musicologists in relation to ornamentation, triadic theory, modal concepts, monody, affect, figured-bass realizations, and singing techniques. To date, little work has been done in translation or in analysis of Crüger's theoretical works as a whole. There are also several musical compositions by Crüger that still remain in their original part-book form. These have never been edited for modern performance. Extensive analysis has been done on the re-editing of Crüger's chorales but this subject will not be treated in this thesis. The last article to be written exclusively on Crüger's theoretical works was by Elizabeth Fischer-Krückeberg in 1930.<sup>2</sup> There have been no articles or books that have concentrated on Crüger's concept of harmony although related subjects such as stylistic

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<sup>2</sup>E. Fischer-Krückeberg, "Johann Crüger als Musiktheoretiker" in *Zeitschrift für Musikwissenschaft*, XII (1930), 209-228.

elements of early seventeenth-century composers have been discussed by a few modern musicologists. It is very difficult to ascertain what the characteristic style of the period was because of the complex currents of change in theory. Little translation and analysis of the theoretical works has been done to date. George Buelow, a leading contemporary Baroque musicologist, has this to say of the problem:

To attempt a summary of the German contributions to music theory in the seventeenth century is at this time an unattainable goal. To date we have achieved little significant research into this material, and we lack a systematic examination of the development and dissemination of the main currents of theoretical ideas in the century. The little information available is almost entirely in German . . .

What we sorely lack today is a more perceptive style analysis of this music that would grow out of our command of the routine theory as it was taught to students in the seventeenth century. . . . Long overdue is a study of the school manuals of such important sixteenth- and seventeenth-century writers as Calvisius, Crüger, Dressler, Faber, Gumpeltzhaimer, Listenius and Nucius.<sup>3</sup>

Since Buelow wrote this article in 1972, more work has been done in the area of stylistic analysis. No work to date has concentrated on Crüger.

The primacy of harmony permeates Crüger's treatises. The word "harmony" is mentioned in every work. Crüger did not originate his ideas on the subject, but rather copied them from notable contemporaries and predecessors. The topic chosen for this thesis is: *The Concept of Harmony in Johann Crüger's Theoretical Treatises: A Practical Distillate of Seventeenth-Century Musical Ideas*. In dealing with this

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<sup>3</sup>G. Buelow, "Symposium on Seventeenth-Century Music Theory, Germany," *Journal of Music Theory*, Vol. 16, (1972), pp. 37-41.

subject certain goals are hoped to be met. In understanding the ideas discussed by Crüger musicians will be able to perform his music with a better understanding of figured-bass techniques, ornamentation ideals and structural form. In studying the triadic harmony that he talked so much about music editors can come to a better idea of chord realization. It is also of interest to know just what a popular composer thought was important stylistically and theoretically in his own time period. In studying this specific set of works it is possible to see how a more modern sense of tonality evolved. One must be cautious in analyzing works of this pre-tonal period. Many misconceptions have arisen due to a lack of systematic research of the original documents, and it is hoped that this thesis may clarify some of these issues.

The thesis will give general background information about Crüger and his works, and the musical, political and social world he lived in. The term "harmony" will be defined and then discussed in relation to the dyad and the *trias harmonica*. The modal major/minor aspects of the triad will also be discussed. In close relation to the concept of the triad is the concept of figured-bass. This topic will be discussed as a practical realization of the new ideas of triadic harmony brought from Italy. The general concept of word/harmony relationship will also be treated and the practice of ornamentation as a result of this union will be dealt with. Wherever possible, the sources Crüger so readily borrowed from will be identified and quoted. It is hoped that a better understanding of early Baroque concepts of harmony will result after reading this thesis.

## CHAPTER I

### BIOGRAPHY

Johannes Crüger was born in Gross-Bresen near Guben in Lower Lusatia on April 9, 1598, and he died in Berlin on February 23, 1662. He attended schools in Guben until he was fifteen years of age, following which he travelled extensively. First he went to Sorau and Breslau and from there to Olmütz where he studied in a Jesuit college. He then went on to Regensburg in 1614 where he studied at the University of Wittenberg under Paul Homberger (1560-1634), a disciple of the Venetian composer Giovanni Gabrieli.<sup>4</sup> Crüger obtained an Italian education at the University of Padua after leaving Wittenberg. From Homberger Crüger received a thorough grounding in Venetian and Italianate styles of composition. Much of Crüger's compositional style is derived from Praetorius (ca. 1570-1621).

In 1615 Crüger visited both Austria and Hungary and included a brief stay in Pressburg (Bratislava). He also travelled through Moravia, Bohemia and Saxony. He finally ended his travels in Berlin where he became tutor to the family of Christoph von Blumenthal, a captain of the royal guard of the elector of Brandenburg.

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<sup>4</sup>Crüger dedicated his *Laudes Dei Vespertinae* (Berlin, 1619) to his teacher Homberger. He then makes reference to the fact that Homberger studied under Gabrieli.

In 1619 he wrote and published wedding music entitled *Concentus Musicus zu Hochzeitlichen Ehren dem Ehrenwerten . . . Herr Casper Goltzen und Seiner Vielgeliebten Braut Magdalen Maurati* (Berlin, 1619).

In 1620 Crüger entered the University of Wittenberg as a theology student. He is reported to have sung bass in the choir. He published an eight-voice wedding piece entitled *Achtstimmig Hochzeitsgesang aus dem IV Capitel des Hohen Liedes Salomonis zu Ehren* (Berlin, 1620).

His set of musical compositions *Meditationum Musicarum* (Berlin, 1622) was published while he was still at University. This last work must have been considered noteworthy by his superiors because he was called to Berlin on June 23, 1622 to become the Kantor at the Nicolaikirche and a teacher at the Lateinschule of the Grauen Kloster Gymnasium. He retained this position for forty years until his death.

Crüger had come in contact with traditional Catholic music while studying at the Jesuit college but he composed primarily for the Lutheran Orthodox church. While at Wittenberg he studied under several prominent Orthodox and Calvinistic theologians. His chorale compositions were set to the words of Paul Gerhardt (1607-1676), a staunch Orthodox supporter.

Crüger's education at Wittenberg included studies in Rhetoric, Music Theory and Composition, and Religion, all three of which he dealt with in his theoretical works. His rhetoric professor had worked with Martin Opitz (1597-1639), noted for his codification and metrical revision of German poetry. Crüger's concern with word/music relationships stems from this academic influence in his early life.

He also included much of the philosophy of his teachers in his theory manuals written in Berlin.

During the early years at Berlin Crüger taught music theory and composition, and he directed a choir. His capabilities as an organ player are reflected in the way he treated information about figured-bass realizations in his treatises. He composed two choral pieces entitled: *Meditationum Musicarum Paradisus Primus* (Berlin, 1622), and *Meditationum Musicarum Paradisus Secundus* (Berlin, 1626). He also wrote and published his first theory manual for the boys at the Lateinschule. The manual was entitled: *Praecepta Musicae Practicae Figuralis* (Berlin, 1625).<sup>5</sup> A German manual similar to the *Praecepta Musica* . . . (Berlin, 1625), entitled: *Kurtzer und Verstandtlicher Unterricht, Recht und Leichtlich Singen zu Lernen* . . . (Berlin, 1625) was published in the same year. The second treatise was a simpler version of the first Latin edition. These first two treatises contain traditional explanations of modal theory with examples borrowed from Praetorius, Calvisius (1550-1615), J.A. Herbst (1588-1686), Lippius (1585-1612) and Walliser (1586-1648). Shortly after publishing the musical and theoretical works Crüger married Marie Beling (1628).

In 1630 Crüger wrote another theoretical treatise called: *Synopsis Musica Continens Rationem Constituendi & Componendi Melos Harmonicum, Conscripta Variis(ue) Exemplis Illustrata*, hereafter

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<sup>5</sup>There is purportedly an earlier 1624 treatise called *Synopsis Musica, Continens*. However, this may be a spurious edition. For further discussion on this topic refer to page 26 of this thesis.

known as *Synopsis Musica* . . . (Berlin, 1630). The work was enlarged and republished in 1654. This treatise was very progressive. Crüger acknowledges composers like Monteverdi who evidenced modern techniques, "stile moderno." He includes forward looking ideas of harmonization, figured-bass treatment and *trias harmonica* treatment. He borrowed many of his ideas at this time from Lippius and included ideas on word/music relationships that relate to the Optizian school of thought. These tutors no longer deal only with educational practical matters but also delve into the world of music philosophy. This edition signified a high point in Crüger's writing career. He was most progressive in his ideas and music.

After 1630 he went through a period of mental depression. He suffered greatly during these war torn years, publishing nothing from 1630 to 1640. His wife and several children died. After 1640 he again began to publish. Perhaps his marriage to Elizabeth Schmidt helped him to regain his compositional energy. In this later period of his life he concentrated on arranging and editing chorale tunes for the Lutheran service. These editions were set for the home-centred worship that was becoming popular due to the Pietistic movement in Germany.<sup>6</sup> The first edition of chorales was called *Neues Volkomliches Gesangbuch* (Berlin, 1640). He later edited the *Praxis Pietatis Melica* (Berlin, 1647), arrangements of chorale tunes. The *Geistlich Kirchen-*

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<sup>6</sup>More information about the Pietistic movement will be given in Chapter 2 on Musical, Philosophical and Social Background.

*Melodien* (Berlin, 1649) were arrangements of the *Praxis Pietatis Melica* using the new idea of added instrumental parts for strings and figured-bass keyboard. These chorale books were the result of a collaboration with Paul Gerhardt. Crüger worked exclusively with Gerhardt's poetry until his death in 1662. After Crüger's death Georg Ebeling (1637-1676) carried on writing music for Gerhardt's texts. In 1645 Crüger published the non-chorale compositions entitled *Laudes Dei Vespertinae*. Again sacred in nature, these were written in the Italian style and dedicated to Homberger.

During the 1640's Crüger wrote no theoretical treatises. After the end of the Thirty Years War in 1648 he again wrote an expansion and adaptation of the two treatises: *Praecepta Musicae Practicae Figuratae* (Berlin, 1625) and the *Kurtzer und Verstandlicher Unterricht* (Berlin, 1625). This new edition was called *Questiones Musicae Practicae . . .* (Berlin, 1650). This edition was written in Latin and summarized in German, all in one volume. The 1654 edition of the *Synopsis Musica* (Berlin, 1630) was published next and this edition included a section on singing in the Italian manner. An extensive appendix was added that explained the figured-bass style. This treatise was a mixture of the traditional theory of the Renaissance antique style and the modern Italian style.

In 1651, Crüger wrote a selection of music, *Recreationes Musicae* (Leipzig, 1651) that has been lost. Several more editions of chorale collections were written during the 1650's. These included *Psalmodia Sacra* (Berlin, 1658) and an edition of Luther's songs and psalms in

1657. Crüger's hymn arrangements were also included in a hymnbook edited by C. Runge (Berlin, 1653).

In 1660 Crüger published his last theoretical treatise, *Musicae Practicae Praecepta Brevia Exercitia Pro Tyronibus Varia. Der Rechte Weg Zur Singekunst.* (Berlin, 1660). This last treatise is very conservative and the ideas relate to the ones established in the manual of 1625. The work includes a review of solimization, principles of notation, ideas relating to intervallic structures and proportions, and triadic harmonic ideas. Mention is made of the Italianate style of singing.

Crüger's works were not unique nor original; rather, they typified music and theory of the early seventeenth-century. They show trends of the old style of writing and explain the new concepts that were just beginning to come into popularity in Germany. Crüger himself, was a very popular composer. His arrangements show great musical variety and sensitivity in setting music to text. His music reflects the political and musical struggle that was prevalent in his day. In order to understand why he composed and wrote as he did, it is necessary to discuss the social, political, and musical world that he lived in.

## CHAPTER 2

## MUSICAL, PHILOSOPHICAL AND SOCIAL BACKGROUND

In the early seventeenth century Germany was influenced socially and musically by its surrounding countries. It has been said, "in no other period of its musical history has Germany given more cogent proof of its ability to adopt foreign ideas in the sense of assimilating them, making them its own, reworking them and finally refashioning its native inheritance by fusing the latter with what it has newly acquired."<sup>7</sup> From the Netherlands came the influence of Sweelinck over German organists. English musicians like John Dowland and Thomas Simpson spent periods in German courts giving an English influence to instrumental music. The art of French harpsichord playing left its mark on the German courts as well. Most of the influence philosophically and chorally came from Italy. The new forms of monody, madrigal singing, concertante playing, opera, *stile rappresentativo*, and instrumental music all had their origins in the Italian courts. Throughout Germany, Italians had been appointed to the posts at the German courts. This plurality of multinational ideas led to confusion, so music was generally categorized into areas for church, theatre or chamber(home). The names given for these were, respectively, *stilus ecclesiasticus*, *theatralis*,

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<sup>7</sup>Clare G. Rayner quotes F. Blume in "Germany, Art Music, 17th Century," in *New Grove Dictionary of Music*, Vol. 7, p. 270.

and *cameralis*.<sup>8</sup> Crüger's music is primarily classed as *ecclesiasticus*, although some of his hymn-books were written for home-centred worship.

From the end of the fifteenth century to the beginning of the eighteenth century music theory was classified in three ways: *musica theorica*, *musica prattica* and *musica poetica*.<sup>9</sup> Many definitions of these terms existed, but Crüger identified with the one devised by Listenius in *Musica* (Nuremberg, 1537). Listenius stated that *musica theorica* referred to the explanations of contemplation and understanding of music; *musica prattica* dealt with the skill of performing and teaching music; and *musica poetica* was the substance left after the composition was composed and performed. After the death of the composer or performing artist, the essence of the spirit of the composition still existed as *musica poetica*.<sup>10</sup>

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<sup>8</sup>*Ibid.*

<sup>9</sup>For further information on the subject the reader is referred to the article by Martin Ruhnke, "Musica theorica, prattica, poetica," in *M.G.G.*, Vol. 9, pp. 950-958.

<sup>10</sup>The following passage is a translation of Listenius' *Musica*, A. 3v. (Nuremberg, 1537). It is taken from the Dissertation by Rivera Benito, *Johannes Lippius and His Musical Treatises: A Study of German Musical Thought in the Early Seventeenth Century*, (Ph.D. dissertation, Rutgers University, 1974), p. 34.

*Musica theorica* is that which involves only the contemplation of nature and the knowledge of its subject; its end is to know. Thus the music theorist knows the art itself, is content with this, and gives no example through practice.

*Musica practica* is that which does not take refuge only in the depths of nature but leads to actual work, although no work remains behind after the action; its end is to act. Thus the practical musician, besides knowing

Lippius paralleled the three musical terms with three academic disciplines. Mathematics is like *theorica*, Ethics is like *prattica*, and Rhetoric is like *poetica*.<sup>11</sup> The list of composers who wrote treatises in Germany that dealt with *musica prattica/poetica/theorica* is extensive. Among them can be included: Agricola, Avianius, Beuhusius, Cochlaeus, Coclico, Dressler, H. Faber, Finck, Galliculus, Gumpelzhaimer, Heyden, Koswick, Lampadius, Listenius, Oridryus, Ornithoparchus (Volgesang), Raselius, Rhaw, Schanppecker, Schneegass, Spangenberg, Virdung, and Wilphlingseder.<sup>12</sup>

Crüger's theoretical books, although classed as *musica prattica* on the title pages, actually included some discussion on *poetica* and *theorica*. The difference between Crüger's books and those by the authors listed above is that his works were geared mainly for students as self-tutors. This type of tutor-book was not unique. During the early seventeenth century such composers as Herbst, Gumpelzhaimer, Eichmann, Kretzschmar, Gesius, Demantius, Friderici, Elsmann, Gengenbach Sartorius, Hase, Erhard, Quirsfeld and Mylius also wrote treatises much like

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the art, teaches others and exercises himself in it towards effecting some work.

*Musica poetica* is that which is not limited to the knowledge of a subject or to action alone, but leaves something behind after labor, such as when someone writes music or a musical piece; its end is the resulting completed work. It consists in making or fabricating, i.e. in that type of labor which leaves behind, even after the artist's death, a finished and complete work. Thus a composing musician is one who is involved in leaving something behind in his endeavor.

<sup>11</sup>*Ibid.*, p. 37.

<sup>12</sup>*RISM, Ecrits imprimés concernant la musique*, passim.

"Crüger's in form and content."<sup>13</sup> It should be re-emphasized that studies of any of the above authors would help in determining salient stylistic points of early seventeenth-century ideas on music theory.

Some general conclusions can be drawn from a brief scanning of some of the treatises mentioned above. This in no way replaces indepth studies but it does give some ideas as to what the concerns of the authors were. *Musica theorica* came to be associated with descriptions of the Hexachord system based on the overtones resulting from the division of the monochord. It also included discussions on scale systems, harmonic (triadic) theories, intervallic relationships, and compositional techniques. *Musica prattica* discussions included explanations of bocedization, solmization, tempo and tactus, lengths of notes and rests (values), key and clef modulations, figured-bass realizations, and ornamentation practices. It also dealt with the art of singing or playing well on an instrument. *Musica poetica* took its lead from *musica reservata* and found its expression in the meaning of composition as seen in word/music relationships. The ideas were primarily generated by Joachim Burmeister (ca. 1560-1597) in Germany and by the Italian monodists. Descartes (1596-1650) codified the Doctrine of Affections, in *Compendium musicae* (1618).<sup>14</sup> Burmeister mentioned that although all three parts (*theorica*, *prattica* and *poetica*) were important, they did not

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<sup>13</sup> *Ibid.*

<sup>14</sup> G. Buelow, "Rhetoric and Music," in *The New Grove* (1980), Vol. 15, pp. 793-803.

all necessarily fit together. *Musica theorica* often had little to do with practical music. He said: "these two latter groups (*prattica* and *poetica*) have the former (*theorica*) perpetually linked with themselves, but not the reverse."<sup>15</sup> Affect involved word/music relationships and performance practices (*musica prattica* and *poetica*), but often theoretical treatises related to neither. The theoretical works of Crüger did, however, blend the two together. Theoretical concepts were given with practical examples of how to obtain a better relationship between music and text that would fit in with the affect of the composition. The Harmony must fit the text and the result would be a unified affect of cause.

Germany in the early seventeenth century was also influenced by another Italian categorization in music. Italian composers were in conflict over two styles of music called *prima prattica* and *seconda prattica*. The conflict was generated as a result of the innovations being introduced by the Italian Camerata and the Monodists. The disputes between Claudio Monteverdi and Giovanni Maria Artusi defined the split. Monteverdi's brother Giulio defended Monteverdi's use of dissonance in conjunction with ornamentation that helped to bring out the effect of the textual line. Artusi defended the harmonic style of the past masters, Zarlino (1517-1590) being his chief example. G. Monteverdi defined the two practices in the *Introduction to the Fifth Book of Madrigals* (Venice, 1605):

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<sup>15</sup>"Et habent hae duae posteriores sibi perpetuo conjunctam superiorem sed non e contra." Burmeister, *Musica*. (Petreius, Nürnberg: 1549, facsim. ed., Berlin, 1927).

To the old music he [Monteverdi] has given the name of First Practice . . . and the modern music he has called Second Practice . . .

By First Practice he understands the one that turns on the perfection of harmony, that is, the one that considers the harmony not commanded, but commanding, not the servant, but the mistress of the words, and this was founded by those first men who composed in our notation music for more than one voice . . . and by the most excellent Zarlino with most judicious rules.

By Second Practice, which was first renewed in our notation by Cipriano de Rore . . . he [Monteverdi] understands the one that turns on the perfection of the melody, that is, the one that considers harmony not commanding, but commanded, and makes the words the mistress of the harmony. For reasons of this sort he has called it "second," and not "new," and he has called it practice and not theory because he understands its explanation to turn on the manner employing the consequences and dissonances in actual composition.<sup>16</sup>

In Germany, Michael Praetorius was the first to expound this new *seconda prattica* style in his *Syntagma Musicum* (Vol. III 1619). The treatment of both styles was considered in Praetorius' works as well as in many other manuals of the day. Crüger mentions Monteverdi in his 1654 editions of the *Synopsis Musica* but fails to mention him in the 1630 edition. This would imply that during these 24 years Monteverdi's influence had become very popular all over Germany. Monteverdi's practice came to be associated with the one phrase [the *seconda prattica*] "ut oratio sit domina harmonicae" (that the word be mistress of the harmony). Zarlino's practice [or the *prima prattica*]

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<sup>16</sup>The passage is taken from a translation of the Preface of the *Fifth Book of Madrigals*, (Venice, 1607), by Monteverdi. It is found in the book *Source Readings in Music History, The Baroque Era*, ed. Oliver Strunk, (New York: W.W. Norton & Co., 1965), pp. 48-49.

came to be connected, sometimes incorrectly, with the phrase "ut harmonia sit domina orationis" (that the harmony be mistress of the word).

"Crüger lists the following composers in his *Synopsis Musica* (1630): Orlandus (Gibbons), Marentius, Johan Gabriel, Fine Hus, Viadana, Agazzarius, Johan Hermannus Schein, Heinrich Schütz, Praetorius, Demantius, Walliser (and etc.).<sup>17</sup> The list shows a representation from various countries: Gibbons from England, Viadana from Italy, and several composers from Germany. It also shows that Crüger was aware of figured-bass techniques by his inclusion of Viadana and Agazarri. There is a scanty mention made of Italian ornamental practices in Chapter XVII of the treatise. In the same chapter (XVII) of the *Synopsis Musica* (Berlin, 1654) Crüger changes the list of respected composers and authors. He includes Claud Montevera at the head of the list and follows him with Casatus, Rovetta, Sabbatinus, Rigatus, Alex Grandi, Tarq. Merula, and Heinrich Schütz.<sup>18</sup> The influence is definitely more Italianate at this period, Schütz being the only non-Italian mentioned, and his style was of the Italian type. Crüger speaks frequently of Lippius, honoring him by quoting his works and citing his name. Lippius was a fellow German and his brand of music theory was unique to Germany. Lippius codified the triadic concepts in terms of *Trias Harmonica*. This topic will be dealt with in greater detail later in the thesis.

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<sup>17</sup>"Crüger, *Synopsis Musica*, (Berlin, 1630), Chapter XVII.

<sup>18</sup>"Crüger, *Synopsis Musica*, (Berlin, 1654), Chapter XVII.

It can be concluded from the above lists of composers' names that Crüger was influenced by musicians of other countries and took his style of composition from fellow German musicians. Musically, then, Crüger can be classified as a composer who composed primarily *musica ecclesiastica* in an Italianate style (with some traditional German characteristics) sometimes using *prima prattica* techniques, and sometimes using *secunda prattica* ideas. He wrote theory books, like many of his fellow composers in Germany, that were called *musica prattica* books, although they included *musica theoretica* and *musica poetica* sections as manuals for the Lateinschule in Berlin, where he taught. Crüger was aware of the composing styles of other countries and frequently quoted other composers on issues of ornamentation, figured-bass and harmonic concepts. His prime influences were from Italian composers and German writers including Praetorius, Lippius, Walliser, and Herbst. The prime Italian influences were from the composers Monteverdi, Agazzari, Viadana, Glarean and Zarlino.

There were several philosophical issues prevalent during Crüger's day. The effects of humanism were being felt in Germany and so were the effects of Germany's religious struggles. Humanism brought with it a re-affirmation of the ancient Roman and Greek ideals on literature, art and music. Man became the centre of the universe. The emphasis was on a "harmony of the spheres" where man was in harmony with nature and nature in harmony with the universe. The concepts of Macrocosm (world order in the universe) and Microcosm (man as a miniature representation of the universe) were popular in Crüger's day. He uses

the term Microcosm in connection with his definition of Harmony in the *Synopsis Musica* (Berlin, 1630). He says that "harmony is what keeps the Microcosm in order and when disharmony (dissonance) occurs, evil occurs."<sup>19</sup> A further definition of what the term "Harmony" is will be discussed in detail in Chapter 4.

One of the effects of the humanistic movement was a return to the ideals of the ancient Greeks in stressing poetical and grammatical structuring of the language. In Germany, Martin Opitz began writing poetry using the traditional versification of the ancient Greeks. He, however, also began writing poems in native German in structured forms. The German language was just being codified into an academic rather than a vernacular language. Opitz' poems did much to give credit to the native language. To his date most academic works were written in Latin. Crüger also wrote some of his theoretical ideas in German for the benefit of students who could not understand the more difficult Latin. This influence of stressing the structure of the poetry passed on to the musicians who were setting the poetry to melodies and then harmonizing them. The harmonies were to be conceived in the same way that the poems were, with a versification structure. Crüger's chorale settings of Gerhardt's poetry were just as concerned with the placement of stressed and unstressed chords (harmonic and dissonant chords, respectively) as was the text with stressed and unstressed syllables. Crüger took the setting of these German texts very seriously.

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<sup>19</sup>"Fines cant: harmonicae (qui es est spectandus magis, quo hodie a plerisq curatur minus). & quidem intermedius praecipuus est motus MICROCOSMI ad virtutem alacriter sectandam, aversandum autum vitium." taken from *Synopsis Musica*, (Berlin, 1630), Chapter I.

The careful setting of the text and music deals with another concept prevalent during the early seventeenth to mid-nineteenth century, called Affect. The concept dealt with the harmony between the content and the form of a piece of music or other art form. This topic will be discussed further in the chapter on Music/text Relationships.

The Religious struggles of the day greatly affected Crüger and his text writer, Gerhardt. Crüger had been trained in a Catholic school, but was an Orthodox-Lutheran himself. The German lands were going through a political-religious period of conflict during most of Crüger's life. To understand the religious struggles of the day it is necessary to outline the political happenings as well.

The German states were involved in a politico-religious war known as the Thirty Years War (1618-1648). The actual political situation is not particularly relevant to this discussion, but the fact that the country was in a state of chaos is important. The conflicts arose over a choice of religion for each particular state. The choice could be Catholic, Orthodox-Lutheran, Pietistic-Lutheran or Calvinistic. Surrounding Catholic countries such as France and Italy wanted more financial and political power in Germany so they supported the states run by Catholic princes. Other areas such as the state in which Crüger worked were Lutheran and were being helped both financially and politically by Sweden and England. During the war years troops from these nations as well as the Bohemian troops were trying to gain more territorial rights in the German states. The war started as a religious conflict first. The Protestants in Bohemia and the Catholics

were involved in a local peasant revolt. This conflict spread to the other areas of Germany. Troops from neighboring countries came to the aid of various princes in Germany upon request. At times there were Bohemians, Swedes, Englishmen, Italians and Spaniards all fighting<sup>20</sup>

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<sup>20</sup>On 30, September (1633), another troop of one thousand Imperial Spanish cavalry passed through. Although, as new recruits they understood no military discipline, they did understand blackmail and robbery, whereat the inhabitants once more left house and home and fled into the woods. On the same day, since the Augsburgers knew that the whole of Bavaria was bereft of troops, and because they were driven on by hunger, for the Croats had long ago scoured the countryside, they overran the town of Landsberg, plundered it for four days, molesting the inhabitants fearfully and returning home to Augsburg with their booty. Three hundred of them came to Peiting in order to ambush the Croats and massacre them to be rid of them. But since many of them were only interested in booty and the rest fled, they took up their baggage and horses with the help of the peasants with whom the Croats were more hated than the Swedes because of their thieving. The Croats, however, gave chase and killed about fifteen of the Augsburgers. The rest reached Landsberg with their booty.

On 1 October we once again heard the fearful news that the Swedes had broken in and were plundering and laying waste to the village inn. At the inn they stole four horses. Afterwards the rumour went around that the thieves were Imperial troops (Hapsburg troops) . . . the Imperial troops had caught the Augsburg Swedes . . . the Swedes had plundered Bavaria . . . the Imperial troops (Catholic troops who were supposed to be defending the Bavarian inhabitants from the Protestant Swedes) . . . entered Herrsching, driven the inhabitants out with shovels, broken open doors, and stolen and (killed). . . . The Spanish regiments . . . were half-filled companies of blackened and jaundiced faces, starved bodies, half-clothed or bedecked in rags. Next to them the officers appeared well fed and elegantly dressed.

The above quotation comes from the accounts of the German monk Maurus Friesenegger (Abbot at Andechs in 1633). It describes the

with or against locals, and all having their own ends in mind. Eventually the religious cause lost its importance and the conflict became one of political power. The final period of the war was characterized by a conflict between the French-Swedish sides against the Hapsburg House for a control of territory. The Treaty of Westphalia (1648) ended the war. The north countries, including Crüger's homeland in Berlin, remained Protestant, with the Swedes having a ruling vote in the government. The South remained Catholic, and France had a powerful say in the political vote. The German states, in effect, became puppets of the foreign countries as a result of this conflict. Germany was left with a population cut of up to fifty percent in some areas and little in the way of crops or financial treasury. The country had gone through a time of moral and financial devastation. The fact that some culture remained and that music was still being written is a strong tribute to the faith and determination of the people of the day. The arts did suffer because the patrons in the courts were financially unable to support the musicians and artists. The quality of court music suffered but religious music flourished in the local churches. The chorale music for the church reached its peak during the seventeenth century, the majority of compositions being ecclesiastical. The emergence

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movement of the troops and gives some idea of the chaos existing in the country. Germany was obviously being influenced by these people from other lands. The writings of the day show that multinational influence evident in the political movements. Those countries that invaded Germany and fought in the battles were also the ones that contributed musical and philosophical ideas incorporated into German music theory books. The quotation is taken from the book *Germany in the Thirty Years War*, by Gerhard Benecke, (London: Edward Arnold Co.), pp. 61, 62.

of the Pietistic movement led to the production of many home-centred music books to aid devotions.

During the sixteenth century the two main branches of state religion were Catholicism and Protestantism. The North German States were either Lutheran or Calvinistic in faith, and the South German States were primarily Catholic. The Thirty Years War did not change this much but it did precipitate the emergence of a new branch of Lutheranism called Pietism. The war had originally broken out over the Counter-Reformation attempts of the Catholic Church. The Catholics were trying to reconvert Lutherans back to Catholicism, but rather than do this, the Lutherans became stronger in their beliefs. A new and stronger movement of Lutheranism was called Pietism.

Pietism protested religious establishments and emphasized home worship. It sought to individualize faith much along the lines of man-centred humanism. The focus was, however, different from humanism in that the beliefs centred on the Trinity and man's responsibility to this triune God. The ancient ideas of the Greeks and Romans had nothing to do with the Lutheran religion of the day. The traditional branch of Lutheranism, called Orthodox, was not as radical in its ideas of home-centred worship. It did, however, stress faith as being important and worked very strongly in the church centres. The music for church services was still being composed by Orthodox writers, of whom Crüger was one, but much music was now also being composed for the Pietists' home services. This consisted of devotional material that included chorale tunes. Chorale books were also being published, then

re-edited, and published again many times. Crüger was involved in such editing processes. Each time the chorales were edited some changes were made to modernize the melodies, words or harmonies. These original chorales came from a variety of sources, including both sacred and secular traditions. The gradual trend in these editions was to a less frequent use of contrapuntal writing and a more frequent triadic chordal setting of the harmony of the melodies. The rhythms tended to stress the line scan of the poetry and melodies were gradually simplified so that people who were untrained could manage the tunes. The melodies used few leaps and difficult intervals.

Church schools, called Lateinschulen, were created to help young boys learn the music that was to be sung. In this way many people could learn the basics at the school and both sing in the church choirs as well as worship in their own homes. These schools taught the basics of academic knowledge, religious beliefs and musical performance. Not all the boys trained in the schools became professional musicians; rather, they were given a basic education for practical use. Crüger taught at such a school in Berlin. His theory treatises, therefore, focussed on how to teach these young boys to sing the church music of the day.

These treatises discussed issues that were of concern to singers. They dealt with a variety of topics but were always written expressly to teach children how to sing for the purpose of the glorification of God. The major concern of these treatises is that they teach the correct way to sing well. It is amazing that in a time of

political and financial strife, such very elucidating works were composed. They are witness to the fact, that in Germany at this time there was a great concern for learning music, and that there was a demand for the kind of works Crüger was writing.

Musically, then, Germany in Crüger's day was being influenced by the surrounding countries that were using Germany as a political battleground. The major influence came from Italy in the adoption of the new *seconda prattica* techniques codified by the monodists and the Monteverdi school. Crüger wrote primarily ecclesiastical music and in his singing manuals, called *musica prattica*, explained how to sing his music. These manuals also contained information on *musica poetica* and *musica theorica*. Crüger was well versed in the musical literature of his day and copied from various sources. These sources were primarily concerned with harmony (i.e. the triad) and performance practices.

Philosophically, Crüger was feeling the influence of the humanists and the return to the ancient Greek ideals of word/music relationship. He also was involved in the spiritual revival generated by the Pietists. His writings reflected the deep faith that many of the Lutherans were upholding during the war years.

Socially and politically Germany was in a time of chaos and the church became the focal centre for stability and strength. The church schools, like the one in which Crüger taught, were prevalent in Germany and helped train and care for many boys in the war torn country. There was a multi-national influence in Germany at the time, some of which was at the same time both devastating and also enlightening. The

strength of the church and the popularity of the church music came as a result of the stressful time that people were experiencing.

## CHAPTER 3

## OVERVIEW OF THE TREATISES

"Cruger's treatises have been classified as *Musica Prattica* instruction manuals. However, they can be further classified as manuals that are: 1. designed purely for instructional purposes; and 2. those that are designed as compositional manuals as well as instructional books. As has been mentioned earlier all his books rely heavily on information published in other theorists' works. They are more a distillate of thought than a publication of original ideas. The following chapter will chronologically outline the treatises, mentioning the place and date of publication. It will also include pertinent information about each treatise that will be of value to the reader in understanding the nature of that particular work. Sources where the first editions are held at present will also be quoted. The Appendices include a transcription of the full title page of each treatise and the reader is asked to refer to this for clarification. The Appendices also contain a translated chapter outline of each of the treatises for the edification of the reader.

"Cruger's first two theory books were published in Berlin by his friend Johann Kalle in 1625, shortly after he was appointed Cantor at St. Nicholai church. They were printed by Georg Runge. The *Praecepta Musicae Practicae figuralis . . .* (Berlin, 1625) is a small book, in

octavo format containing 32 folios. A copy of the first edition is held in the Musiksammlung der Stadtarchiv in Heilbronn, Germany. The work is classed as an instruction manual (type 1), and is geared for the use of students in the Berlin school.

The second book, also written in Berlin in 1625, was printed by Georg Runge and published by Johann Kall. It is a small, thin book in octavo format and contains only 20 folios. This book is written in German and is essentially an abbreviated version of the *Praecepta Practicae* . . . (1625). The reason for this edition, Fisher-Krückeberg says, is to aid younger school boys in understanding the subject.<sup>21</sup> A copy of this edition is held at the library in Heilbronn, Germany.

There is some speculation about the first printing of the *Synopsis Musica* . . . Buelow in *The New Grove* and Blankenburg in *M.G.G.* claim that the first edition of this work was printed and published in Berlin in 1630 and that an enlarged version followed in 1654.<sup>22</sup> Blankenburg makes further mention of the fact that there is some speculation that an earlier 1624 edition existed.<sup>23</sup> Elizabeth Fischer-Krückeberg

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<sup>21</sup>Fischer-Krückeberg, *ibid.*, p. 610.

<sup>22</sup>Buelow discusses this in the article on "Crüger, Johannes," in the *New Grove* (1980), vol. 5, p. 70. Blankenburg, in *M.G.G.* vol. 2, pp. 1799-1814 in the article "Crüger" says that there are two editions of the *Synopsis Musica Continens*; namely, the 1630 and the re-edited 1654. He then says that a reading error has caused an earlier 1624 edition to arise: "ein Lese fehler hat diese lange Zeit als eine frühere von 1624 erscheinen lassen," p. 1803. It is from these two sources that the conclusion has been reached that the first published edition of the *Synopsis Musica Continens* . . . is dated as 1630.

<sup>23</sup>See footnote 22.

discusses the sources of this inference.<sup>24</sup> Walther mentioned that a 1624 edition existed<sup>25</sup> and this was copied by Adlung,<sup>26</sup> Forkel,<sup>27</sup> Gerber,<sup>28</sup> Lichtenthal,<sup>29</sup> and Hugo Rieman.<sup>30</sup> Fétis discusses the problem, quoting these previous sources, but comes to the conclusion, like Fischer-Kruckeberg, that this must be an error in dating.<sup>31</sup> The earlier issue in question is mentioned in the Breitkopf catalog of 1934.<sup>32</sup> This version is supposedly in quarto format as opposed to the listing of the 1630 in octavo format. This statement is also confirmed by Fétis.<sup>33</sup> Fétis

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<sup>24</sup>Fischer-Kruckeberg, *op. cit.*, pp. 612-613.

<sup>25</sup>Walther, *Musikalisches Lexikon*; (Leipzig: Wolfgang Deer, 1732, reprinted Kassel and Basel: Bärenreiter Verlag, 1967), p. 194.

<sup>26</sup>Adlung, *Anleitung zu der Musikalischen Gela~~h~~rtheit*, (Erfurt: Jungnicol, 1758, Facsm. reprint; Kassel and Basel: Bärenreiter Verlag, 1953), p. 759.

<sup>27</sup>Forkel, *Allgemeine Literatur Der Musik*, (Leipzig, 1792, Facsm. Reprint ed., Hildesheim: Georg Olms, 1962), pp. 421-422.

<sup>28</sup>Gerber, *Historisch-Bibliographisches Lexikon der Tonkünstler* (1790-1792), Vol. 1, (Leipzig: Breitkopf, 1790, reprint ed., Graz: Akademische Druck, 1977), p. 314.

<sup>29</sup>P. Lichtenthal, *Dizionario & Bibliografia Della Musica*, 2nd edition, (Milan: Forni, 1836), Vol. IV, p. 335.

<sup>30</sup>Hugo Riemann's *Musik Lexikon*, 11th edition, A. Einstein, editor, (Berlin: Max Hesse Verlag, 1929), p. 358.

<sup>31</sup>Fétis, *Biographie Universelle Des Musiciens*, 2nd edition, (Paris, 1875, reprint edition, Brussels: Culture et Civilization, 1963), Vol. 2, p. 399.

<sup>32</sup>See footnote 24.

<sup>33</sup>Fétis, *ibid.*

mentions another edition supposedly printed in 1634 in duodecima format containing 232 pages that is listed in the Breitkopf catalog of 1763. The title is the same as the *Synopsis Musica Continens . . .* (1654), but for the altering of one word, "annexa" to "concepta." Fischer-Krückeberg says that this labeling is due to an error in reading the unclear printing of the copy title page.<sup>34</sup> Gerber goes further than Fétis by stating that a third edition existed that was printed in 1734 in duodecima format. This would seem to confirm the idea that the print was unclear and that the date of the treatise should read 1634 rather than 1734.<sup>35</sup>

Fischer-Krückeberg, says that although the quoting of the 1624 dating is probably an error, there is the fact that the title of the "so-called" 1624 work resembles the *Synopsis Musica Continens . . .* (1630) rather than the *Synopsis Musica Continens . . .* (1654).<sup>36</sup> In any case, unless there is some discovery of a copy of the 1624 edition or the 1634 edition, it will be concluded that the third theoretical work by Crüger was printed and published in 1630 and was entitled *Synopsis Musica Continens*. The copy is held in the Musikabteilung der Staatsbibliothek in Tübingen, Berlin, and is octavo format containing 64 folios.<sup>37</sup>

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<sup>34</sup>Fischer-Krückeberg, *op. cit.*, p. 613.

<sup>35</sup>Gerber, *op. cit.*, p. 314.

<sup>36</sup>Fischer-Krückeberg, *ibid.*

<sup>37</sup>*RISM, ibid*, p. 246 states that other copies of this edition are housed in libraries in Dresden, Hannover, Leipzig, Wolfenbütel, Paris, London, Boston and Washington.

The *Synopsis Musica Continens* . . . (Berlin, 1630) can be classified as a compositional manual (type 2) and is very progressive in its presentation of Italian concepts of performance practice. The work was well respected in the local musical world and quoted many of the new theoretical ideas discussed by Lippius and Herbst.

A period of twenty years followed the publishing of the *Synopsis Musica* . . . (Berlin, 1630) before Crüger had another work published. The stress of the Thirty Years War probably accounted for this wait. The *Questiones Musicae Practicae* . . . (Berlin, 1650) was an expansion and adaptation of the *Praecepta Musica* . . . (Berlin, 1625). Once again, this second work was an instructional (type 1) manual. It included many of the Italian performance practice styles that the earlier work did not. Both the *Questiones Musicae* . . . (Berlin, 1650) and the *Synopsis Musica* . . . (Berlin, 1630) were modeled after similar works by Lippius. The *Questiones Musicae* is a third edition. Presuming that the *Praecepta Musica* . . . is the first edition, it can be concluded that edition II is lost. The *Questiones Musicae* . . . (Berlin, 1650) was published by Johann Kalle and printed by Christoph Runge in Berlin in 1650. It contains 63 pages, the first 37 of which are in Latin, and the last 10 in German. The work is in octavo format and there is a total of 61 folios. The only edition extant is housed in the Ratsschulbibliothek in Zwickau.

The next treatise published was called *Synopsis Musica Continens* . . . and has an unclear date of publication, causing the problems discussed on pages 25 and 26. It is presumed, however, that the treatise was

published in 1654, not 1624. It was printed by Christoph Runge, with the author editing it. It is a very lengthy work containing 232 pages in octavo format. The copy viewed is held in the Staatsbibliothek, Tübingen, Berlin, Germany.<sup>38</sup>

Two years before Crüger's death in 1662 he published another treatise in Berlin. The publisher is not given on the title page but is presumed to be Christoph Runge. Although it has a title in Latin, *Musicae Practicae Praecepta Brevia*, (Berlin, 1660), the work is actually written in German. It is an instructional manual (type 1) and is not very progressive in its approach. It mentions the Italian practices, but discusses many *prima prattica* concepts. It is in 8<sup>o</sup> and contains 73 pages in 31 folios. The treatise viewed is housed in the Staatsbibliothek, Tübingen, Berlin, W. Germany.<sup>39</sup>

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<sup>38</sup>Other copies are housed in Belgium, Wolfenbüttel and Paris. See *RISM, ibid*, p. 246.

<sup>39</sup>Other copies are housed in Coburg and Wolfenbüttel. See *RISM, ibid*.

## CHAPTER 4

## THE CONCEPT OF HARMONY

The concept of harmony conjures up a variety of definitions. The term usually refers to either musical harmony or harmony in aesthetics. In order to understand the term harmony as Crüger used it, it is necessary to understand the classical Greek definition of the term, as well as the Renaissance musical usage of the term.

Musical harmony can be defined as a "concord of sounds that is pleasing to the ear,"<sup>40</sup> or "that element of a musical whole which arises from the simultaneous or immediately successive sounding of tones, in distinction from melody."<sup>41</sup> Musical harmony, therefore, is a concensus of two or more musical tones sounded together, that is pleasing to the ear. Key to the definition is the phrase "pleasing to the ear." In the one phrase we have the essence of the reason for the change in harmonic concepts throughout musical history. As tastes changed, so also did ideas on harmony.

Harmony in aesthetics was first discussed by the ancient Greek philosophers. The Greek term "ἁρμονία" (Latin harmonia) meant

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<sup>40</sup>*The Century Dictionary and Cyclopaedia*, Vol. IV, (New York: The Century Co., 1895), p. 2724.

<sup>41</sup>*Dictionary of Philosophy and Psychology*, article on "Harmony," ed. by J. Baldwin, Vol. I, (Gloucester, Mass.: Peter Smith, 1957), pp. 141-142.

"an agreeable arrangement of forms, colors (sounds), or other qualities in an aesthetic whole, with special reference to some criterion of congruity or fitness, whether implicitly or explicitly recognized."<sup>42</sup>

This principle of harmony was essential to the Greek sense of aesthetic consciousness and it involved an attempt on the part of the Greeks to reconcile the role of the individual as a part of the whole. The writings pertinent to the issue come from Pythagoras and Aristotle.

"Harmony, or the music of the spheres,<sup>43</sup> according to the fancy of Pythagoras and his school, is a music, imperceptible to human ears, produced by the movements of the heavenly bodies."<sup>44</sup> Pythagoras supposed that the heavenly bodies moved by certain fixed laws which could be expressed in numbers. These numbers related to the harmony of sounds which in turn related to the seven planets in the heavens, (these are the sun, moon, and five visible planets). The seven notes represented the seven planets. Aristotle said this as well about the Pythagoreans. "They (the Pythagoreans) supposed the whole heaven to be a harmonica and a number."<sup>45</sup> The term harmonica, although specially applied to music, could signify any well organized

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<sup>42</sup>*Dictionary of Philosophy and Psychology, Ibid.*

<sup>43</sup>The term was used by the seventeenth-century German scientist J. Kepler (1571-1630) as well.

<sup>44</sup>*The Century Dictionary and Cyclopedia, Ibid.*

<sup>45</sup>*The Encyclopedia of Philosophy, Vol. 1, (New York: MacMillan Co., 1967), pp. 38, 39.*

structure of parts fitted together in due proportions. Therefore, though musical numerical ratios of sound based on a division of proportions is usually what was referred to by the ancients as being a harmony of sound, harmony also was bound up with moral and spiritual concepts. The *cosmos* originated from a concept of oneness. The Macrocosm was one united work or universe bound together by world order. World chaos was the antithesis of Macrocosm. Microcosm, on the other hand, can "signify not only many in relation to the universe . . . but also [to] any part of a thing, especially a living thing, that reflects or represents the whole it belongs to whenever there is a mirroring relation between the whole and each of its parts."<sup>46</sup> In the Renaissance, microcosm came to be primarily associated with man's role in the cosmos or universe. "Renaissance speculation on the microcosm centred on the idea that human nature partakes of bodily, intellectual, and divine existence uniting in itself the whole of the sublunary, celestial, and supercelestial realms."<sup>47</sup> Man and God were one in harmony with each other, united in the macrocosmic sense of order in the universe. The smallest part of the universe, was part of the total order of the universe. "Cruger alludes to this philosophy when he says the following in the *Synopsis Musica Continens* . . . (Berlin, 1630): Harmony is what keeps the MICROCOSM in order and disharmony is the

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<sup>46</sup> Donald Leby, in the article "Macrocosm and Microcosm" in *The Encyclopedia of Philosophy*, (1967) *op. cit.*, Vol. 5, p. 122.

<sup>47</sup> *Ibid.*, p. 124.

disturbance that occurs when evil happens.<sup>48</sup> With the very chaotic situation in the political world of Crüger's time, is it no wonder that he centres on the idea that chaos meant evil and that harmony signified world order and oneness of God and Man.

The practical musical realization of this emphasis on harmony resulted in discussions on which intervals constituted harmonic ones, and which intervals were disharmonic or anharmonic. The idea of a relationship between the music and text was also a result of the idea that, aesthetically, all must be in harmony, united so that the parts all fit the whole. During the early seventeenth century, musicians, including Crüger, were re-evaluating what harmony was. The principles based on a concept of what was pleasing to the ear remained unchanged but the realization of these principles was gradually changing. The scales were still based on the division of the octave by proportions, but the emphasis was on a combination of three notes (triad) as opposed to a two-note combination (dyad). The ideals of the ancient philosophers were called into practice to justify the new triadic-based harmony that better represented the Holy trinity than did the dyadic-based contrapuntal harmony. The sense of order was to be found in each of the modal scales and, therefore, each of the scales had its inherent characteristic triad.

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<sup>48</sup>"Finis cant: harmonicae (qui es est spectandus magis, quo hodie a plerisq curatur minus). & quidem intermedius praecipuus est motus MICROCOSM ad virtutem alacriter sectandam, aversandum autum vitium." J. Crüger, *Synopsis Musica Continens*, (Berlin, 1630), Chapter I.

Crüger's ideas on harmony revolve around four basic areas. He discusses harmony in relation to the dyad, the triad (*trias harmonica*), the triad within the modal scale (major or minor modes) and the harmony of text/music relationships. In examining Crüger's ideas on harmony the reader must be aware of the differences between the term "harmony" and the term "tonality."

Tonality has been defined by Beswick as "the organized relationship of musical sounds, as perceived and interpreted with respect to some central point of reference that serves to co-ordinate the separate items and events and to lend them meaning as component parts of a united whole."<sup>49</sup> Beswick is stating that there must be a tonal centre to a composition for tonality to exist. Tonality must have a central reference point such as a key that permeates the entire composition. All chords must relate to this particular key with a specific function. The key becomes a unifying agent and becomes more than the sum of the individual parts (chords); rather, it becomes the generator.

Hugo Rieman has said that the concept of tonality was first introduced into music theory by Rameau in his *Traité de l'harmonie* (Paris: 1722).<sup>50</sup> Rameau said that there was a harmonic centre (although he did not specifically use the term tonality) around which all the other

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<sup>49</sup>D. Beswick, *The Problem of Tonality in Seventeenth-Century Music* (Unpub. Ph.D. diss., University of North Carolina, 1950), p. 11.

<sup>50</sup>Hugo Rieman, *Musiklexikon*, "Die eigentümliche Bedeutung, welche die Akkorde erhalten durch ihre Bezogenheit auf einen Hauptklang die Tonika," Vol. II, *ibid.*, Berlin: Max Hesse, 1929, p. 1854.

sounds must be related."<sup>51</sup> The term that Rameau uses is not one that Crüger is concerned with. Crüger uses the terms major and minor but in relation to intervallic structure within either a dyad or a triad. He takes this further using the theories of Lippius as a basis and extends this concept of major and minor in relation to a categorization of the modes used in composition. The modes used were either major or minor but in no way were these modes synonymous with keys as we understand them in a post-Rameau sense. Crüger still composed with a modal rather than a tonal basis but he was defining composition in terms of pre-tonal language rather than Renaissance modal language.

To aid the understanding of Crüger's ideas on harmony the following chapters will discuss his ideas on dyadic harmony and what constitutes a good or bad interval, triadic harmony in relation to the concept of the *trias harmonica* that was defined by Lippius, major and minor harmony within the modal scales and, finally, the harmony of text/music relationships. Closely connected with the discussion on triadic harmony, is a discussion of figured-bass realization. The figured-bass realization becomes the practical short hand method of describing the triad in the composition. The practice of ornamentation likewise becomes one practical way of enhancing the text/music relationship.

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<sup>51</sup>"Le Centre Harmonique, auquel tous les autres Sons doivent se rapporter." Taken from Jean-Philippe Rameau, *Traité de l'harmonie reduite a ses principes naturels*, (Paris: Ballard, 1722), p. 127.

## CHAPTER 5

## THE HARMONIC DYADS

Early seventeenth century theorists took their ideas on dyadic harmony from two basic sources; modal Renaissance traditions and classical Greek thought. Although Crüger never acknowledges these ancient theorists he does adhere to some of their ideas. Cleonides (1st century A.D.) said that "harmonic is the speculative and practical science having to do with the nature of the harmonious. And the harmonious is what is made up of notes and intervals having a certain order."<sup>52</sup> Crüger somewhat parallels this statement in his *Synopsis Musica Continens*, (1630). He says: "Music is the science of artfully and prudently combining and inflecting harmonic intervals which make a concentus of diverse sounds for the reason of moving man to God's glory."<sup>53</sup> Once again there is a subtle reference to the Microcosmic/Macrocosmic theories discussed in Chapter 4 of this thesis.

It is important to note that Crüger considers that combined intervals are the basis for music. He reiterates this idea later in

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<sup>52</sup>Taken from the *Harmonic Introduction* (1st Cent. A.D.) by Cleonides, in translation by Oliver Strunk, from *Source Readings in Music History*, Vol. I, (New York: Norton and Norton, 1965), p. 34.

<sup>53</sup>"Musica . . . est Scientia artificiose & prudenter conjungendi & inflectendi intervalla harmonica in diversis sonis concentum efficientia, hominis maxime movendi causae, in Dei gloriam." By Johann Crüger from *Synopsis Musica Continens*, Berlin: Kallij, 1630), Caput I.

Chapter I of the same treatise. He says: "the material that harmony is composed of is sound. Sound is principally a combination of musical intervals in total harmony."<sup>54</sup> These musical intervals come as a result of a division of the monochord or the octave into specific proportions. If the divisions were mathematically sound then the musical results would also be good. Quintilian (first century A.D.) laid out specific divisions of the tetrachord into harmonic intervals.<sup>55</sup> This division was copied throughout medieval times but the nature of the proportions often changed. In the tenth century A.D. the *Scholia Enchiriadis* says that "Harmony is born of Arithmetic as of a mother . . . [it] is a concordant blending of unequal sounds . . . joined throughout to the theory of numbers, as are also the other disciplines of Mathematics so it is through numbers that we must understand it."<sup>56</sup> The author of the *Scholia* quoted the sixth century author Cassiodorus (ca. 550 A.D.) when he said that music is "the rational discipline of agreement and discrepancy in sounds according to numbers in their relation to those things which are found in sounds."<sup>57</sup> Crüger, therefore, in stating that musical harmony referred to a combination of intervals, was following a traditional practice set by the ancients

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<sup>54</sup>"Materia ex qua Harmonia generatur est Sonus. Sonum enim principium est omnium Intervallorum Musicorum & totius harmoniae." From the *Synopsis Musica Continens*, (Berlin, 1630), Chapter 1.

<sup>55</sup>See the footnote number 3 from the article "From the Republic" by Plato in *Source Readings in Music History*, *op. cit.*, p. 4.

<sup>56</sup>Taken from the *Scholia Enchiriadis* translated in *Source Readings in Music History*, *op. cit.*, p. 134.

and continued through the later Medieval and Renaissance times.

A discussion of dyadic harmonic intervals is, in reality, a discussion of counterpoint. Much of Crüger's thought on counterpoint stems directly from the teachings of Glarean (1488-1563) and Zarlino (1517-1590). Rather than identifying the numerous traditional sources that Crüger copied a study will be made of what he considered important, thereby giving some idea of what was popular in terms of correct compositional techniques. Crüger also copies much from Lippius in this area.

When separate single pitches (monads) are combined together they form "composite" sounds. These composite sounds made of monads can be either triads or dyads. Crüger borrowed this idea from Lippius, as well as the idea that these combined intervals could be either "harmony" or "disharmony" depending on the kind of intervals involved. Lippius had said: "Harmony or consonance arises from low and high sounds mixed and united in a congruous pitch proportion, pleasing to the ear. Disharmony or dissonance arises from low and high sounds forced together in an incongruous pitch proportion, displeasing to the ear."<sup>58</sup> Crüger echoed these thoughts in both the 1630 and 1654 editions of the *Synopsis Musica Continens*. He first said that "sounds in themselves are musical monads. Composite sounds come from joining simple sounds (monads)

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<sup>57</sup>*Scholia Enciriadis*, translated in *Source Readings . . . op. cit.*, p. 135.

<sup>58</sup>"Harmonia, consonantia oritur ex sonis gravibus & acutis congrua suae crassitudinis Proportione commixtis ac inter se unitis grata auditui. Anarmonia, Dissonantia proficiscitur ex sonis gravibus & acutis Proportione suae Crassitudinis incongrua coactis, molesta auditui." Lippius, *Synopsis musicae novae*, (Kiefer, 1612), E 2r, translation by B. Rivera from the dissertation "Johannes Lippius . . .," *op. cit.*, p. 105.

together."<sup>59</sup> He then goes on, in agreement with Lippius, that these sounds can be either harmonious ("*harmonia, consonantia*") or dissonant ("*anarmonia, dissonantia*").<sup>60</sup> His definition of harmony is as follows: "Harmony arises from sounds mixed together in proportion and united in themselves and pleasant to hear. Dissonance arises from the same kinds of sounds brought together with bad proportion and displeasing to the ear."<sup>61</sup>

Inherent in the quotation is the belief that both reason and sensation contribute to the harmony or disharmony of a sound interval. The concept of a harmony arising out of a proportion of arithmetic sounds had its roots in the Pythagorean school, and was continued by musica theorists throughout history. *Musica prattica* specialists (performers included) had often relied on the senses to determine what would sound well together, whether it always followed the rules of exact

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<sup>59</sup>"Sonus compositus ex simplicibus (scilicet: Sonis seu Monadibus Musicis) inter se conjunctis & crassitudine maxime differentibus coalescit & producit vel Harmonia, Consonantiam vel Anarmoniam, Dissonantiam." *Synopsis Musica Continens*, (1630), Chapter VII, and "Pars composita contionis harmonicae ex simplicibus sonis seu monadibus Musicis, inter se conjunctis & crassitudine maxime differentibus coalescit, & est vel Harmonia, vel Anarmonia, Consonantia Dissonantia." *Synopsis Musica Continens*, (1654), Chapter VI, p. 41.

<sup>60</sup>See footnote 59.

<sup>61</sup>"HARMONIA oritur ex sonis gravibus & acutis congruae suae crassitudinis proportione commixtis, ac inter se unitis, grata auditui. ANARMONIA, dissonantia oritur ex sonis gravibus & acutis incongruae suae crassitudinis proportione coactis, molesta auditui." *Synopsis Musica Continens*, (1630) Chapter VII and *Snyopsis Musica Continens*, (1654), Chapter VI, p. 41.

arithmetic proportions. Lippius had said that both aspects must be combined to understand the true nature of harmony. "When the senses combine with reason, the result is musical certitude."<sup>62</sup>

These combinations of sounds were divided by Crüger into perfect and imperfect sounds. Once again he followed the precedent set by Lippius in 1612. Crüger made the following statement in his *Synopsis Musica Continens* of both 1630 and 1654: "These sounds that are in themselves musical monads, can be composed in Imperfect voices like Lippius' Dyads or in perfect voices that are Triads in music."<sup>63</sup>

Lippius had said that "the combination could be unmediated or imperfect as a dyad, or mediated and perfect as a triad."<sup>64</sup> The mediation refers to the mathematical mediation. The proportion of a 6:4 is, for example, a perfect fifth. It is a dyad because it consists of only two notes. The proportion 6:5:4 represents a perfect fifth with a third in the middle. This interval is mediated and represents the triad. The mediated proportion is more complete than the unmediated one. Therefore, the triad is perfect, being mediated, whereas, the dyad is imperfect, being unmediated. True to form, Crüger leaves out

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<sup>62</sup>B. Rivera, *op. cit.*, p. 107.

<sup>63</sup>"Utraq; autem pars ex simplicibus Sonis, seu Monadibus Musicis est Composita vel Imperfecte & vocari potest juxta Lippium Dyas Musica vel perfecta & vocari potest Trias musica." *Synopsis Musica Continens*, 1630, Chapter VII, and "Utraq; autem pars ex simplicibus sonis est Composita vel Imperfecte & vocatur Dyas Musica: vel Perfecte & vocari potest Trias Musica." *Synopsis Musica Continens*, 1654, p. 41.

<sup>64</sup>"Porro Pars utraque ex Monadibus Musicis est composita vel immediate & imperfecte, vel mediate & perfecte: quarum illa Dyas, haec Trias Musica potest nuncupari." Quotation taken from footnote 6 in B. Rivera, *op. cit.*, p. 108, of Lippius' *Synopsis*, (1612), E 3r-3v.

the mathematical aspects of the discussion and simply concludes that the dyad is imperfect and the triad is perfect. This sense of triadic perfection will be discussed further in the following chapter.

There is a further differentiation in the dyad. It can be either simple or composite. A simple dyad lies within the range of an octave while a composite one lies outside that range. Cruger says that the composite dyads follow the same rules and laws as those within the octave.<sup>65</sup> The simple dyads, however, deserve a better explanation. These dyads are classified as perfect or imperfect, and there is an order of perfection as well. These perfect or imperfect intervals can be major or minor in nature.

The most perfect intervals range from the smallest to the largest intervallic span. The most perfect consonance is the octave (2:1) then comes the fifth (3:2), the fourth (4:3), the major third (5:4), minor third (6:5), major sixth (5:3) and finally the minor sixth (8:5). The first three intervals are known as perfect consonances and the next group is known as imperfect consonances. Cruger also gives each interval a certain affect. The octave (unisonus compositus) is the perfect simple sound; it represents perfection. The fifth is grand and firm and masculine, whereas, the fourth is a ringing, sad consonant sound. In the imperfect intervals the major third is lively, vigorous and vivacious while the minor third is gentle, mild and sad. The

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<sup>65</sup>"DYADES COMPOSITAE ex simplicibus, & quidem Consonantes ex Consonantibus: Dissonantes ex Dissonantibus, imitantur naturam simplicium juxta notissimum axioma: De Octavis est idem & simile judicium." *Synopsis Musica Continens*, (1630), Chapter VII, and *Synopsis Musica Continens*, (1654), Chapter VI, p. 50.

major sixth is joyful while the minor sixth is dejected, weak and languid.<sup>66</sup> He not only finds affect in the intervallic structure, but affirms that the closer the intervals are to the perfect unison, the stronger and more stable they become. The minor sixth is therefore, the weakest of the lot of the imperfect consonances.

Both Zarlino and Lippius (as well as many other authors) had discussed the problem of the limit of the consonant intervals. Before Zarlino's time the sixth was not included as a consonance. He justified it as a perfect interval because the number was perfect in the universe of the spheres. He said that the major sixth could be justified because it belonged in the scale. The minor sixth did not but it could potentially exist if the major interval was included. It would be included in the diatonal scale and therefore could be called a consonant interval.<sup>67</sup> Lippius echoed the thoughts of the writer

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<sup>66</sup>"Et si enim quaelibet consonantia simplex suo in gradu sit perfecta, respectu tamen alterius vel perfectior vel imperfectior existit, ita quidem ut perfectissima & prima sit OCTAVA. (unisonus compositus) utpote quae summa sua perfectione quasi aequisonare & unisonare post unisonum simplicem audiatur. Post hanc QUINTA Perfectione sua consonare gratissimo, firmissimo & masculo tinnitu: Tum QUARTA etiam graviori tinnitu consonare: Post hanc DITONUS dulci Imperfectione concinere alacrius, vegetius, vivacius: Porro SEMIDITONUS Suavi quoq; imperfectione concinere mollius, remissius, tristius: Deinde SEXTA MAJOR sua imperfectione circumsonare quasi altius, & laetius: SEXTA deniq; MINOR six etiam circumsonare demissius, mollius, Languidius ad varios sciendum affectus audiantur." *Synopsis Musica Continens*, (1654), Chapter VI, p. 44.

<sup>67</sup>"Questo sono adunque le specie dei Numeri al Musico necessarie: imeroche la cognitione loro serve nella Musica alla investigatione delle passioni del proprio Soggetto, il quale è il Numero harmonico, over sonoro, contenuto nel primo numero perfetto, il quale atte a produr le Harmonie & le Melodie . . ." Zarlino, *Ist. harm.*, (1558), Part I, Chapter 13, and "Che dal numero Senario si comprendeno molte cose della natura & dell'arte." *Op. cit.*, Part I, Chapter 14.

Calvisius, who said that in music there is nothing more perfect than the unison, because it represents oneness and equality; thus often times two-voice compositions end on the unison.<sup>68</sup> Lippius believed that the major sixth belonged to the diatonal scale and could be included as a consonant interval, but he said that Zarlino's reasoning was faulty concerning the minor sixth. This interval should be included because it contained the number 8 in the proportion, thereby making it part of the perfect unison that Calvisius had talked of. "The system of judging the consonance of a musical interval according to the relative simplicity of its numerical proportion, i.e., according to the smallness of the numbers involved, rests on the then universally accepted doctrine that oneness represents the height of perfection."<sup>69</sup> The closer that any interval came to the unison, the more perfect it would be. Lippius, expressing much the same idea that Calvisius did, said:

The nearer any (dyad) is to simple unison in terms of equalized sound, the more perfect it is. For the closer a proportion of inequality is to the proportion of equality in terms of difference and excess, the better, more beautiful, more perfect, and more simple it is. On the other hand, the farther it is, the more

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<sup>68</sup>"Porro si ex fundamentis Musicae de perfectione aut imperfectione consonantiarum loqui velimus, non difficile erit attendenti de hac re pronunciare, Omne enim, quod origini proximum & simplicissimum est, id magis est firmum & perfectum, unde consequens, nihil in Musicis perfectius esse unisono, qui & respectu sui tantum unus est, & in aequalitatis ratione continetur, atque adeo plerumque finis biciniorum in unisono constituitur," Calvisius, *Excer, Mus*, tertia, (1611), pp. 60-61.

<sup>69</sup>Rivera, *op. cit.*, p. 112.

imperfect it becomes, until it reaches dissonance.<sup>70</sup>

The order of perfect and imperfect consonant intervals, therefore, that Cruger listed is consistent with several other leading early Baroque theorists. The idea that unity is perfection (consonance) and plurality is imperfection (dissonance) related once again to the Macrocosmic/Microcosmic theories discussed in Chapter 4. Dammann has said that the perfection of unity was central to all of German Baroque theory.<sup>71</sup>

Cruger borrowed the ideas on affect in dyadic intervals from Lippius. Both composers described the intervals in identical terms. The octave was the most perfect (*perfecticne sua summa*) because it sounded like the unison. The fifth was "most pleasing, most firm and masculine" (*gratissimo, firmissimo and masculo tinnitu*). The fourth was a "rather serious sound" (*graviori tinnitu*) and the major third, the first of the imperfect intervals, is "rather cheerful, vigorous and lively" (*alacrius, vegetius, vivacius*). The minor third, on the other hand, is "rather soft, subdued and sad" (*mollius, remissius, tristius*). Lippius and Cruger change the form of the word "consonant" to imply different intervals. The word changes from "consonantes" to "consonare" from the octave to the fifth and fourth. The major and minor thirds are

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<sup>70</sup> "Quo vicinior quaeque est unisono simplici ratione aequalioris sonantiae, eo est perfectior, Quia proportio inaequalitatis quo propior est proportioni aequalitatis ratione differentiae & excessus, eo est melior, pulchrior, perfectior, simplicior. Et contra quo remotior, eo imperfectior ad usque dissonantiam. Lippius, *Disp. mus. tertia*, A 3r-3v. as translated by B. Rivera in *Johannes Lippius . . .*, *op. cit.*, p. 116.

<sup>71</sup> R. Dammann, *Der Musikbegriff im deutschen Barock*, (Cologne: Volk, 1967), pp. 33-40.

called "*concinere*" and the major and minor sixth are called "*circumsonare*."<sup>72</sup>  
 The major sixth is said to have a "rather high-spirited and happy sound (*circumsonare quasi altius & laetius*) while the minor sixth is a "rather low-spirited and gentle languid" kind of sound (*circumsonare*).<sup>73</sup>

Just because these intervals were all termed as consonances, did not mean that they all could be used in a composition as a consonant. The fourth, for example, was questioned by many during the renaissance and baroque periods of theory as to whether it should be classified as a perfect consonance. In the general practice of the day the fourth was treated as a dissonance in two-part composition. The fourth, between the bass and another voice (a six-four chord), was allowed only in terms of suspensions, passing dissonances, or in a text elaboration. The

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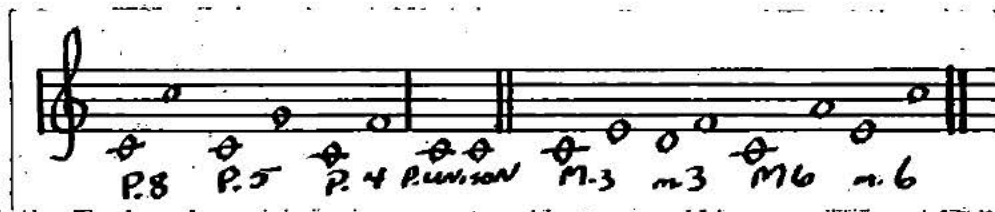
<sup>72</sup>B. Rivera has discussed this issue at length in *Johannes Lippius* . . . , *op. cit.*, pp. 119-122.

<sup>73</sup>"Of the above named consonances the octave, by virtue of its supreme perfection, is heard as an equison and unison, following the nature of the simple unison and equison. Next to the octave the fifth, because of its perfection, is heard as a consonance with a very pleasing very firm, and masculine sonority. Subsequently, the fourth, because of its perfection, is also heard as a consonance with a rather serious sound; than the ditone or major third, because of its sweet imperfection as a rather cheerful, sprightly, and lively "concinance;" then the semiditone of the minor third, also because of its smooth imperfection, as a rather soft, subdued and sad "concinance;" then the major sixth, because of its imperfection as a rather highspirited and happy "circumsonance" that is rather low-spirited, gentle and languid. All these sounds are suitable for arousing the various affections to which they have an individual resemblance. This resemblance manifests itself a posteriori from experience, and a priori through the occult and the secret." Taken from the *Synopsis Musicae Novae* (Strassburg: Kieffer, 1612) in translation by B. Rivera in the book *Synopsis of New Music*, (Colorado: Colorado College Music Press, 1977), p. 37.

best that a fourth could be called in reality was an imperfect consonance. The irony of the fact is that the term a "perfect fourth" remains in present-day vocabulary even though it was seldom treated as perfect past the sixteenth century. Crüger does not explain the difference between a major and minor interval but assumes that the reader will understand the difference. The binary split was well known to all musicians. When Zarlino said the intervals were to be split arithmetically into two he quite definitely meant major and minor.<sup>74</sup> By the time that Crüger wrote his works, speaking of major and minor intervals did not even merit discussion.

Just before he goes on to discuss the dissonant intervals, he sums up the perfect and imperfect intervals by giving the following musical example. Major and minor intervals are included in Example 1 below.

Example 1.



<sup>74</sup>"Et benché la Proportionalità harmonica habbia le istesse proportioni, che si ritrouano nell' Arithmetica: percioche le forme delle consonanze (come habbiamo veduto) sono contenute tra le parti del numero Se nario: che sono in progressione arithmetica: nondimeno nell' Arithmetica, tra i terminini minori le proportioni sono maggiori" & tra li maggiori le minori; & nell' Harmonica si ritrova il contrario: cioè ne i maggiori le maggiori; & ne i minori le minori. From the *Istitutioni Harmoniche*, (Venice: Senese, 1573), by G. Zarlino in facsm. reproduction (New Jersey: Gregg Press, 1966), p. 61.

Crüger then goes on to discuss dissonant dyads. He says that simple dissonant dyads comprise all the other simple intervals. They are totally inconvenient proportions and their sounds do not go easily together, but rather sound offensive when combined.<sup>75</sup> Crüger borrowed this definition from Lippius who said that "simple dissonant or unharmonic dyads comprise all the other simple intervals. These involve irreconcilable proportions, and their juxtaposed sounds, which are located outside the senary, do not easily go together but sound offensive when combined."<sup>76</sup> Crüger also refers the reader to Calvisius' work *Melopœia* (1592) for further information on the subject.<sup>77</sup>

Lippius spends time discussing the exact intervallic proportions after defining the dissonant dyads, whereas Crüger explains when and why they should be used. He says that dissonances give life to a composition and help to join the consonant intervals. Also, when certain harmonic progressions require a dissonance it should be included. If the text requires a dissonance to help with the elaboration a dissonance can be used in embellishment. For instance, if only unisons are used it is tedious, but if consonances are used with dissonances

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<sup>75</sup>*Dyades simplices dissonantes sunt reliqua Intervalla simplicia, quae proportionibus disconvenientibus continentur, quorumque soni extreme aegre coeunt simul auditu moleste.* Crüger, from the *Synopsis Musica Continens*, (1654), Chapter VI, p. 45.

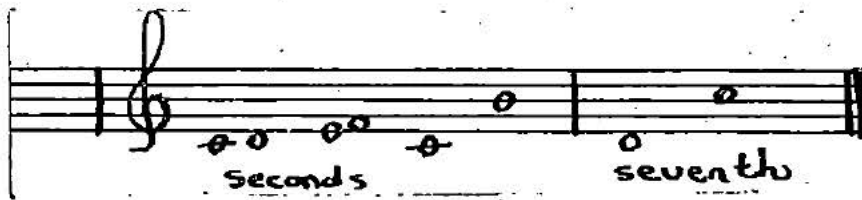
<sup>76</sup>Lippius, *Synopsis Musicae Novae*, in translation by B. Rivera, *Synopsis of New Music*, op. cit., p. 37.

<sup>77</sup>Multum refert (inquit Calvisius ut dissonantia Melopæo . . .) from *Synopsis Musica Continens*, (1654), pp. 45-46.

that have been properly prepared, then boredom can be alleviated, just as sweetness intensifies in degree if it follows bitterness.<sup>78</sup> These dissonant intervals can be classified in two categories; 1. intrinsic (*per se* and *absolute*) which includes intervals such as the seconds and sevenths; and 2. extrinsic (*per accidens*) which includes dissonant intervals formed by the use of accidentals.<sup>79</sup> Example 2 shows intrinsic dissonances and Example 4 illustrates extrinsic dissonances.

Crüger had said that compound consonances were just inversions or expansions of simple consonants, and he uses the same idea when talking

Example 2. *Synopsis Musica Continens* (Crüger, 1654), p. 47



<sup>78</sup>"Multum refert (inquit Calvisius ut dissonantiae Melopaeo recte sunt Cognitae, non tantum, ut vitari possint, ne temere, tanquam consona Intervalla consonantiis misceantur: Sed etiam, ut certis locis, harmonia id requirente, usurpentur, & quidem primo, ut ab Intervallo ad Interval- lum commodius, & absque hiatu progredi possimus. Deinde ut harmonia, si sententia textus id requirat, exasperetur: & tertio, ut tota harmonia iisdem varietur, & exornetur. Nam et si harmonia potissimum & princip- aliter sit ex consonantiis tamen, cum Solae consonantiae id quod in rerum similitudine fieri solet, satietatem parant, dissonantiis mixtis taedium hoc levatur, & quae sequuntur consonantiae suaviores & auditui gratiores redduntur, quemadmodum post tenebras lux, & post amarum dulce magis delectare consuevit." Crüger, *Synopsis*, *op. cit.*, (1654), pp. 45-46.

<sup>79</sup>"Quae dissonant verò Dyades, vel *per se*, & *absolute* dissonant, vel *per Accidens*. *Per se* & *absolute* dissonant Secunda (tam Tonus quam Semitonium) & septima cum suis compositis. Crüger, *Synopsis* (1654), *op. cit.*, pp. 46-47.

about dissonant intervals. One example of such an inversion is the second and the seventh. Although the intervals are actually inversions he does not use the term "inversion;" rather, he just describes the larger intervals as being similar to the smaller ones, only occurring on different lines and spaces.<sup>80</sup> Thus the term *absolute* would refer to intervals in the smallest position, and *per se* would refer to the larger expansion of the intervals.

"Cruger mentions that these dissonants are often found in runs of diminution. These dissonants often occur on the dyad of an augmented fourth. When found on the fourth, they are not like ones found on the second or seventh. One type of fourth occurs naturally in the hexachord and is called ordinary (*ordinarie*). A second type of dissonant fourth can occur when the dyad is altered by *musica ficta* (an accidental on one or two of the notes) and is called extraordinary (*extraordinarie*).<sup>81</sup> For example:

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<sup>80</sup>"Dyades per accidens dissonantes sunt Intervalla quae prima fronte quidem a consonantiis non discrepant, eosdem enim linearum locos, & spatiorum, ut consonantiae solent in Notulis occupant, Verum cum vel semitono minore abundant, vel deficient, Anarmoniam, seu dissonantiam pariunt." *Synopsis . . .* (1654), *op. cit.*, p. 47.

<sup>81</sup>"Sic Quarta sit superflua, quando semitono minore addito tres Toni junguntur (in de Tritonus appellatur) quod sit vel Ordinarie vel Extraordinaire." *Synopsis . . .* (1654), *Ibid.*

Example 3. Ordinary Dyad at the Fourth. *Synopsis* . . . (1654), p. 48.



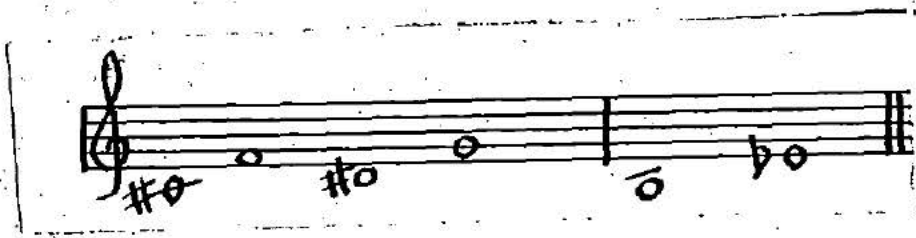
The second type or Extraordinary fourth occurs in using *musica ficta* in the hexachord. If a sharp is added in the first or second species or if a flat (b) is added in the third species an augmented fourth results. The following examples are given:

Example 4. Extraordinary Fourths (*Synopsis* . . . (1654), p. 48.



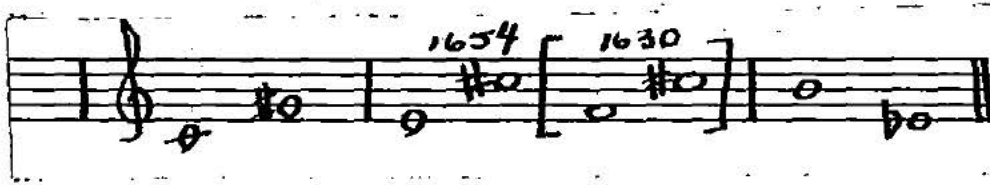
The resultant intervals are augmented fourths in modern terminology. These can also be changed if the other note of the dyad has a sharp or flat added. The examples given show that they then become diminished fourths. Crüger calls these diminished fourths (*quarta diminuta*).

Example 5. Extraordinary Fourths (Quarta diminuta), *Synopsis* 1654, p. 48



The next example given is for the augmented fifths (Quinta sit Superflua):

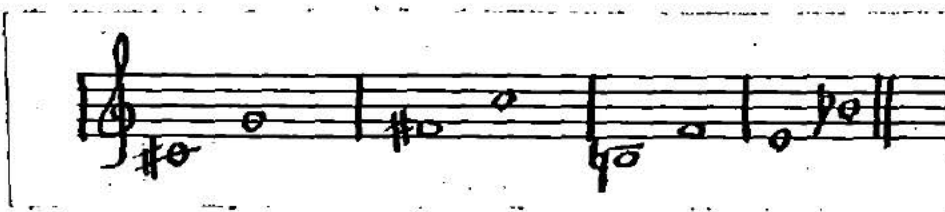
Example 6. Superflua Fifths, *Synopsis* . . . Crüger (1654)



\* Note alto is f in *Synopsis* (1630) ch. viii and e in *Synopsis* (1654), p. 49. The 1654 edition is probably a printing error.

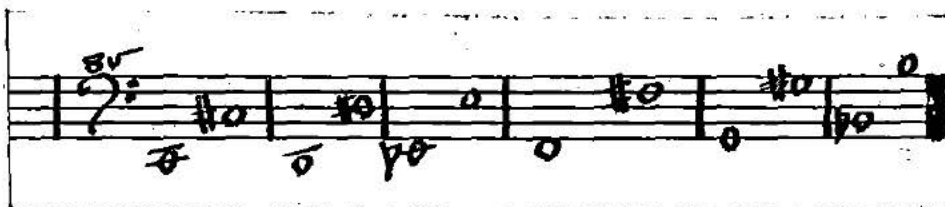
and the diminished fifths follow:

Example 7. Diminuitur Fifths, Crüger, *Synopsis* . . . (1654), p. 49



The octave also can be augmented:

Example 8. Superflua Octaves, Crüger, *Synopsis* (1654), p. 49



and diminished:

Example 9. Diminuitur Octaves, Crüger, *Synopsis* (1654), p. 49, 1630 (Chapter VII, E2)



\*1654 error in printing/ <sup>+</sup>1630 correct

Crüger concluded the chapter on Dyads by saying once again that the same rules apply to the dissonant composite dyads as do to the formerly described simple dissonant dyads.

In chapter XI of the *Synopsis Musicus Continens* (1654) Crüger goes on to give examples of intervallic progressions using dissonant composite dyads. The dissonant second is used in conjunction with the perfect fourth and its inversion, the perfect fifth. He does not state that the fourth and fifths are inversions of each other, but he includes them in the same examples. In the case of the fifth-fourth-second

combination, the resolution is always on the unison octave; see below in Example 10:

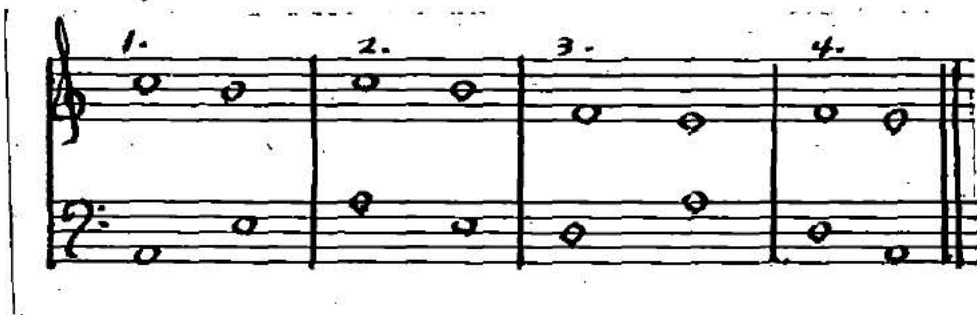
Example 10. *Synopsis Musica Continens* (1654), p. 71, Crüger



The progression, in figured-bass terms, would be a major third (3) to an octave. The dissonant second referred to is not a vertical second but rather a horizontal movement as understood in contrapuntal language. The vertical concentus is not dissonant. Crüger speaks of dissonant seconds in terms of contrapuntal rather than tonal language. The linear movement of the melody line is just as important as the vertical concentus of sound.

The next, Example 11, shows how to harmonize descending seconds with fifths and their inverted fourths. In this case the resolving interval is the fifth of the triadic chord:

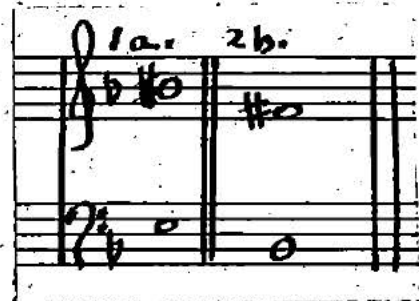
Example 11. *Synopsis Musica Continens*, Crüger (1654), p. 72



"Crüger says that *musica ficta* has to be used occasionally to prevent faulty intervals from occurring. If these signs are used, they should preferably be used in the melody line.<sup>82</sup> The signs used were not consistent with present day use. He uses the # sign for one reason and the ♯ for another. Crüger describes two systems: (a) the true and correct use of the # is on the C when it is a leading tone to D or when F is a leading tone to G; (b) the ♭ or ♯ is used for the note Bb, as in Example 12a, or for the F, as in Example 12b, when there is a lower fifth joined to it. In the scales that are transposed and use a b in the key signature the ♯ sign would be used in the upper note. In the scales that use the F systems, a # would be used incorrectly in the upper notes, as seen in Examples 13a and 13b. If you have a piece with the Bb in the signature and E in the Bass part and a Bb in the soprano part, use the ♯ sign to make the fifth perfect (Example 12a). Likewise, when you have no signature and the bass sings B and the superior sings F use the ♯ or the ♭ to raise the semitone to make a perfect fifth. He cautions not to use the # as shown in Example 13a and 13b where the bass singing B and the soprano singing E.

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<sup>82</sup>"Diesis ista # requirit frequentem Notam ut plurimum ascendentem praesertim in melodiis vocalibus: In Instrumentalibus vero haec lex adeo strictè non observatur." Crüger, *Synopsis* . . . (1654), *op. cit.*, p. 72.

Example 12, *Synopsis*, 1654 p. 73Example 13, *Synopsis*, 1654, p. 73

Crüger deals with progressive octaves, fifths and unisons. Although the consecutives would have appalled *prima prattica* followers of Zarlino, they were justified by the *secunda prattica* followers.

Crüger shows his preference for this second practice in the *Synopsis* (1654). He feels that bad consecutives are avoided by the use of ornamentation and then gives examples of how this can be achieved.<sup>83</sup>

The types of dissonances used come in the form of upper appoggiatura-like progressions (Example 14a), passing notes (14b), anticipations (14c) and as suspensions (14d). Crüger did not label the dissonances thus, but they are in reality traditional melodic ornaments used in a modern way. The dissonances in each example cover parallel octaves.

<sup>83</sup>"Miscet haec harmoniae forma saepissime Relationem non harmonicam, ut videre est in exemplo proposito, ob quam, cum soni difficulter uniri possint, concentus quasi evanescit." Crüger, *Synopsis* . . . (1654), *op. cit.*, p. 96.

Example 14. *Synopsis* (1654), p. 74.

Musical score for Example 14, showing six measures of music. The score is written on two staves (treble and bass clefs). The measures are numbered 1 through 6. Below the first four measures, there are labels 'a.', 'b.', 'c.', 'b.', 'c.', and 'd.' respectively, indicating specific harmonic or rhythmic features. The notation includes various note values and rests.

Further interesting dissonances can be included by the introduction of pauses in the harmony. This, in effect, causes a syncopation of rhythmic harmony. The technique had been in use from the earliest of Renaissance times. The examples given are as follows:

Example 15. Crüger, *Synopsis . . .* (1654), pp. 74-75

Musical score for Example 15, measures 1 through 6. The score is written on two staves (treble and bass clefs). The measures are numbered 1 through 6. The notation includes various note values and rests, illustrating the technique of syncopation.

Musical score for Example 15, measures 7 through 9. The score is written on two staves (treble and bass clefs). The measures are numbered 7 through 9. The notation includes various note values and rests, continuing the technique of syncopation.

The dissonances shown in the above example are aurally implied during the rest. In numbers 1 and 2 the dissonance is a simple second or composite ninth. The third and fourth examples show the fourth as a dissonant between two sets of fifths. The fifth and sixth examples show a part crossing involving a simple second. The seventh example uses an anticipatory figure to form a dissonant of a composite second (9th). The eighth example implies that the sixth between the lower C and the A is a dissonant figure in feeling. Example 9 shows a simple second.

Fourths and sixths can be used in passing-note progressions to give interest and continuity to the music. An example is:

Example 16. Crüger, *Synopsis* (1654), p. 76

Passagework between consonants of fifths can use semiminims that include intervals of fourths and sixths. Example 16 showed the use of sixths between fifths, and Example 17 shows the use of fourths between fifths.

Example 17. Cruger, *Synopsis* . . . (1654), p. 76



A dissonance can be used between a sixth and an octave, or fifth, especially if the passagework between the two intervals consists of short notes, as in Example 18.

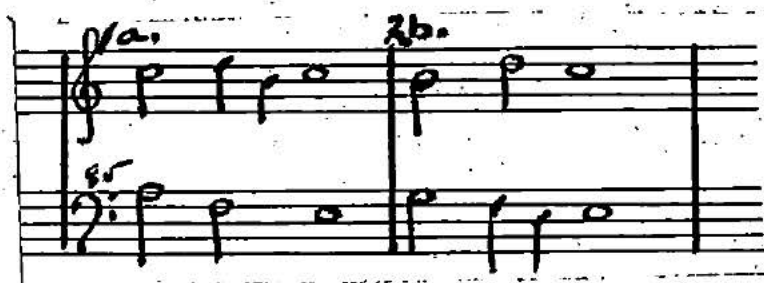
Example 18. Cruger, *Synopsis* . . . (1654), p. 77



\*This example is faulty; the bass should probably have an E in the bass (not G).

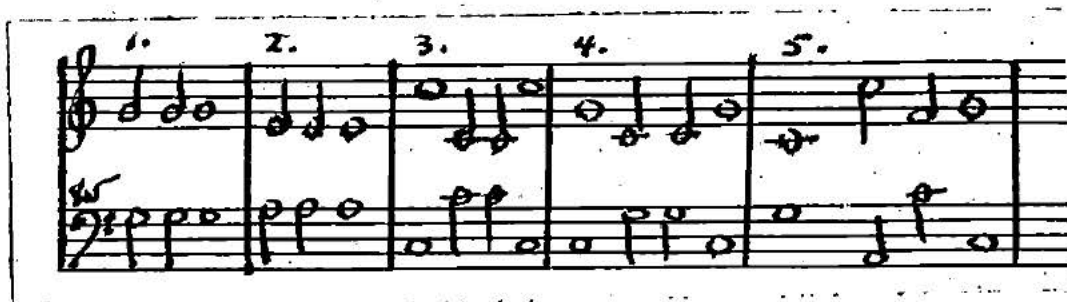
The sixth moves to a seventh and then resolves on the octave in Example (a), and in Example (b) the sixth moves downward through a seventh to land on two successive octaves on D and E. Cruger also gives two examples of ornamental passages using the sixth and fourth and finishing on the sixth. These are as follows:

Example 19. Crüger, *Synopsis* . . . (1654), p. 77



Crüger not only discusses dissonances in dyads, but also gives some interesting examples of how the perfect consonances can be used effectively in compositions. He says that perfect consonances of the same species may follow each other 1. when they remain stable (when repeated); or 2. when they are moving by leap whether in contrary motion or whether by exchanging parts and thus the sound is not changed at all.<sup>84</sup> The Example 20 shows how these perfect consonances are used in contrary motion and in tonal immobility with rhythmic variance.

Example 20. Crüger, *Synopsis* (1654), p. 77.



<sup>84</sup>"Consonantiae Perfectae ejusdem speciei se sequi possunt 1. Cum manent immobiles. 2. In Saltibus, seu motibus contrariis, sive quando per vicēs gravis Sonis in acutum, & contra acutus in gravem transit. Hoc enim modo Soni non variantur, sed in una eademque clave quasi in unisono Constituti consistunt, etiam si de loco in locum transportentur ut." Crüger, *Synopsis Musica* . . . (1654), *op. cit.*, p. 77.

Using the same principles as applied in Example 20 above we see how these repeated perfect consonances can be joined to other perfect consonances in Example 21 below.

Example 21. Crüger, *Synopsis* (1654), p. 78.



Repetition can be used to induce an affect of languidity and openness.<sup>85</sup>

Following the practices shown in Examples 20 and 21, Crüger gives one further example that can produce these affects.

Example 22. Crüger, *Synopsis* (1654), p. 78



<sup>85</sup> "Vox sui Intervalli propria sedem consequitur, harmonia quasi evanescit, sit languida, & hiulea. ut." Crüger, *Synopsis* . . . (1654), *op. cit.*, p. 78.

Chapter ten of the *Synopsis* . . . (1654) shows how to resolve imperfect consonances. Several examples are given from a minor third to the octave; these are shown in Example 22 and a major third to the octave in Example 23.

Example 22. Crüger, *Synopsis* . . . (1654), p. 87



Example 23. Crüger, *Synopsis* . . . (1654), p. 87



The major and minor thirds can also resolve on the fifth. Example 24 shows the resolution of a minor third to the fifth and Example 25 shows the major third resolution to the fifth.

Example 24. Crüger, *Synopsis* . . . (1654), p. 88

Example 25. Crüger, *Synopsis* . . . (1654), p. 88

Minor thirds can be combined with major thirds to form harmony.

Example 26 shows this kind of progression.

Example 26. Crüger, *Synopsis* . . . (1654), p. 90

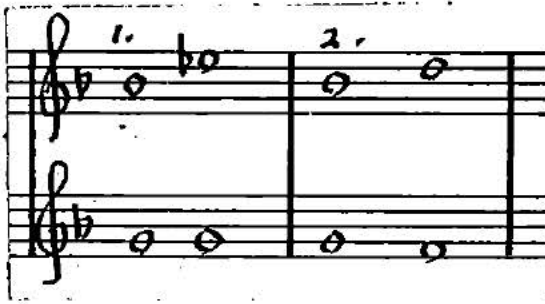
Example 27 shows the movement from one major third to another major third.

Example 27. Crüger, *Synopsis* . . . (1654), p. 91



Examples 28 and 29 show how major or minor thirds can resolve on major or minor sixths.

Example 28. Crüger, *Synopsis* . . . (1654), p. 90



Example 29. Crüger, *Synopsis* . . . (1654), p. 91



Major sixths can resolve to the perfect fifth or the perfect octave. Example 30 shows the resolution to a perfect fifth in the first two measures, and then the resolutions on the perfect octave in the next measures. Measures five and six of the example show an ornamented resolution.

Example 30. Crüger, *Synopsis* . . . (1654), p. 92

The image shows a musical score for two staves, treble and bass clef, in 2/4 time. The score is divided into six measures, numbered 1 through 6 above the staff. Measure 1: Treble clef has a G4 quarter note, bass clef has a C4 quarter note. Measure 2: Treble clef has an A4 quarter note, bass clef has a C4 quarter note. Measure 3: Treble clef has a B4 quarter note, bass clef has a C4 quarter note. Measure 4: Treble clef has a C5 quarter note, bass clef has a C4 quarter note. Measure 5: Treble clef has a C5 quarter note, bass clef has a C4 quarter note. Measure 6: Treble clef has a C5 quarter note, bass clef has a C4 quarter note. The notation is simple, using quarter notes and stems.

Example 31 shows how Crüger resolved the minor sixth on the third or sixth. If the sixth is considered in the same example as the third, it can be concluded that the function of the inversion of a chord is the same as the root position. Therefore, the sixth and third play the same role in the resolution of the minor sixth. This concept would eventually lead to a theory of chord inversion, based on the root rather than the lowest note of the chord. Chord inversion is essential to the modern tonal concept of harmony.

Example 31. Crüger, *Synopsis* . . . (1654), p. 93



The sixth can be treated as a consonant resolving interval and it can be used very effectively in an ornamented passage. Example 32 shows both of these features.

Example 32. Crüger, *Synopsis* . . . (1654), p. 93



Crüger concludes the chapter by saying that harmony should occur in an appropriate place to produce the correct affect. If the major and minor thirds occur in the superior and inferior voices certain affects will be noted.<sup>86</sup> He finishes the chapter by saying that chords

<sup>86</sup>"Cum Harmonia haec sit optima, quae consonantiis quibus libet proprium & naturalem locum distribuit, ea vix tolerabilis erit, quae consonantias, loco suo proprio emotas, in praeternaturali diutius detinet. Fit autem hoc in tali harmoniae forma. Nam Ditoni & Semi-

(concentus) not existent in the mode must be used in a careful manner so as not to produce an empty and noisy sound.<sup>87</sup>

Dyads form the basis of the triad chord, and the treatment of the harmonization of these dyads was essential to the realization of the triad, or *trias harmonica*. The principles of consonances and dissonances lending affect to the music applied not only to the dyads, but also to the triads. The function of the individual intervals was, however, very similar to the traditional contrapuntal style evidenced during the late Renaissance. The differences came in the appending of affect to specific progressions and to the interchangeable use of the simple and compound dyad (major and minor third, for example) in resolutions. It is to be noted that Crüger still adhered strongly to a linear concept of harmonization although he did discuss the vertical concentus of sounds in relation to each other. Once again it can be concluded that the discussion of dyads leads one to form a belief that Crüger was describing a pre-tonal post-contrapuntal style of composition.

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ditoni in sonis acutis & superioribus, non in gravibus & inferioribus naturaliter versantur. Ergo etiam in acutis sonis dominari, nec in gravibus fundamenti locum continuè occupare debebant, sed contra sit in hac harmoniae formâ, Ergo vix erit probanda." Crüger, *Synopsis* . . . (1654), *op. cit.*, pp. 96-97.

<sup>87</sup>"Concentus enim nullo inclusus certo Modo inanis est Strepitus, & absque judicio depromptus sonus, qui auribus in scientia Musica delicatis plus taedii, quam delectationis affert." Crüger, *Synopsis* . . . (1654), *op. cit.*, p. 97.

## CHAPTER 6

## THE CONCEPT OF THE TRIAS HARMONICA

Trinitas haec harmonica vera ac recta radix Unitrisona est omnis perfectissimae & plenissimae harmoniae, quae dari in mundo potest, sonorum etiam mille & millies mille qui tamen omnes ad tamen omnes ad unam hujus Triadis partem sive in Unisono simplici sivi composito (& Octava) referri posse debent, Magniistius mysterii divinae (solum) adorandae unitrinitatis imago & umbra an ulla luculentior in mundo esse possit nescio.<sup>88</sup> Crüger, *Synopsis* . . . , (1630), Chapter VII.

Two distinct uses of the term harmony came into common practice in the early seventeenth century in Germany. The one referred to the intervallic combinations of two notes, called dyadic harmony, or counterpoint, and the other referred to triadic combinations, called trias harmonica used in realizations of figured-bass. Crüger discusses the dyadic combinations at length, as was shown in chapter 5, but he says that the triad is the more important of the two in modern composition. The term "trias harmonica" was coined by Lippius in his *Synopsis Musicae Novae*.<sup>88</sup> (Nuremberg, Caroli Kieffer, 1612) and was quickly

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<sup>88</sup>"This harmonic trinity is the true and right unitrisonic root of the most perfect and most complete harmony which can be given in the world, even of the thousands and millions of sounds which should be able to be reduced to the parts of the triad either by unison or by composite (and by octave), the image and shade of that great, mysterious, divine and solely adorable unitrinity and I don't know how there could be anything more splendid in the world."

adopted throughout Germany to discuss this new idea of composition based on the triadic rather than dyadic unit.

Lippius wrote extensively on the subject of the *trias harmonica* and Crüger copied virtually all of his ideas. Crüger's uniqueness came in his addition of numerous examples to illustrate this important idea. It must be remembered that the triads consisted of a vertical concentus of sounds but did not refer to a tonal relationship between these chords. Cadential patterns and resolutions were discussed using the triadic figures but this discussion did not extend beyond the cadence points. The idea was that there was a "root" from which all the harmonic notes were generated and because the triad (trinity based) was a more holy number than the dyad (two-note based) the triad would therefore be better for harmonization than the dyad. The religious fervour of the day was strong due to the political situation and this concept was popular in many theorists' writings. The modal system was in no way defunct. However, these *trias harmonica* were found to be held within the 8 or 12 modes and therefore formed the basis of differentiation between the modes. The fact that these triads were classed into major and minor caused a duality of differentiation between the modes. However, one must be very careful not to equate these major and minor modes, based on the *trias harmonica* characteristics, with major and minor keys. Starting, then with the premise that composition in Crüger's day was modally oriented, we can conclude that the new *trias harmonica* based compositions were an expansion of the pre-existing dyadic harmonic contrapuntal compositions. Until correct key signatures were used with the corresponding "key" or triad, tonality, as

we conceive of it in eighteenth century terms, did not exist.

There is a lineal progression of historical chordal development that could lead to the conclusion that the major/minor key system was just an outgrowth of the theory of previous times. However, it is more authentic to look at music and theory as the composers and theorists of the day viewed them. Benito Rivera has proposed an evolutionary development of triadic chordal theory. The theory follows the following steps:<sup>89</sup>

1. During the fourteenth century chords that consisted of three separate notes (triadic combinations) were considered good but so were dyadic combinations (two distinctive notes with octave doubling).

The treatise *Ars discantus secundum Johanness de Muris* (Coussemaker, Scriptorum III, 68-113), is the earliest work that gives rules and tables concerning the vertical distribution of three instead of two notes.

2. Triadic combinations are sometimes considered to be better than dyadic combinations (with octave doublings) but dyads are still considered very good.

3. Zarlino's *Istitutioni* (1558) is the first treatise to show that triadic combinations are always considered more perfect than dyadic

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<sup>89</sup>These stages have been taken from the dissertation, *Johannes Lippius . . .* (Ph.D. diss., Rutgers University, 1975), pp. 190-246 by Benito Rivera.

combinations. Zarlino says that perfect harmony is that which combines diverse elements and therefore the composer should strive to have a fifth and third in every chord.<sup>90</sup>

4. The fourth stage in the lineal view of triadic chord evolution occurred when the triad was considered to be a symbol of the Holy Trinity. During this period, in the early seventeenth century, the terms *trias* or *trias harmonica* were used frequently. It is during this period that Crüger, following Lippius' lead, wrote on the triadic concept. Crüger used the term *trias harmonica* throughout all his treatises.

5. The final step of the triadic evolution is the consideration of 6/3 chords and 6/4 chords as recognized inversions of the 5/3 chord. The seventeenth century theorists that listed this inversion technique were Harnisch, Magirus, Lippius and Baryphonus. Crüger did not mention it in his works.

The basic information outlined in the above mentioned theory is that the triad had existed throughout many years of musical history but it only gained importance during the seventeenth-century. None of these early seventeenth-century composers even hinted that the triads related tonally to each other. They did speak of the radix, or root, of the triad as being important and from which all the sounds

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<sup>90</sup> Taken from Zarlino, *Istitutioni Harmoniche* (1558), Pt. III, ch. 59.

of the chords were generated. They did not say that these roots related to each other in any way other than belonging to the same modal set of scales, and could be related at cadence points for a proper and effective resolution. These triads were associated with affect, and preferably the same type of triad (major or minor) would be used consistently throughout the piece to maintain the affect of the composition.

In order to study Crüger's ideas on this trias harmonica, it is necessary to quote Lippius from whom Crüger copied. Both Crüger's and Lippius' definitions and explanations will be quoted but the examples will be taken from Crüger's own treatises. Many of these examples were borrowed from other contemporary composers, but examples will be given as shown in Crüger's works.

The quotation that heads this chapter shows that Crüger considered the triad to be the most complete harmony that can be given in the world. It represents the Trinity and therefore nothing could be more perfect or splendid. Once again the idea is that three in one becomes the perfect unified whole, one being the prime number, and three in one being a divine concept. The quotation is taken directly from Lippius.<sup>91</sup>

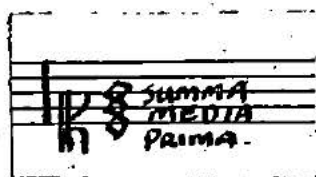
Lippius and thus Crüger are talking about the triad as being

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<sup>91</sup>"Trias Harmonica Simplex & Recta Radix vera est Unitrisona omnis Harmoniae perfectissimae plenissimaeque quae dari in Mundo potest Sonorum etiam mille & millies mille, qui omnes referri posse debent ad partes ejus in Unisono Simplici & Composito, magni istius Mysterii DIVINAE solum adorandae UNITRINITATAS Imago & umbra . . . Lippius, *Synopsis* . . . (Strassburg, 1612), fol. F 4r-7v as taken from Rivera, *op. cit.*, p. 344.

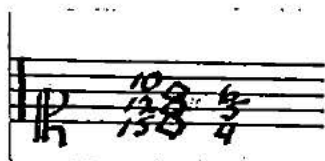
generated from the root (radix) or the lowest note. Within this root are contained three sounds (radical sounds) that form the triad. These three monads are named *prima* (lowest), *ultima* or *summa* (highest), and *media* (middle). Example 33 shows this in musical notation.

Example 33. The Trias Harmonica



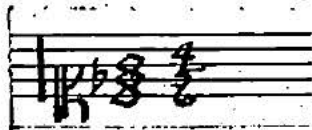
If these triads were perfect and based on a ratio of 10:12:15 or 6:5:4 they would be called a major (dur) triad in which there was a major third on the bottom and the minor third on the top. Example 34 shows this triad.

Example 34. Major Triad



These triads could also be called imperfect if they were based on the ratio of 4:5:6 and called a minor triad. In this case the minor third is on the bottom and the major third is on the top. See Example 35 for this form.

## Example 35. Minor Triad



Lippius spends much time describing the arithmetic ratios of the triadic relations, but Crüger eliminates this discussion, concluding that the triad is perfect because it represents the Trinity.<sup>92</sup>

Crüger identifies the triad as being an integral part of the modal system. In order to recognize the mode of a composition you must look for the final note of the bass voice (root or lowest voice) and add above it a perfect fifth and third. The triad formed is considered to be the most perfect and complete of harmonies to be had in this world. It is the root of a thousand or million sounds and they all refer back to one part of the triad, namely, the root or bass.<sup>93</sup> The triad that is formed characterizes the mode in which it is contained. The root of the triad or the bass of the triad becomes the

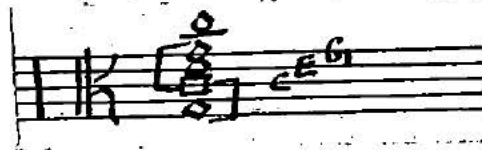
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<sup>92</sup>See footnote 88.

<sup>93</sup>"Quid sunt Modi? Sunt certa harmoniæ genera quae omnem melodiam intra certos fines ac terminos continent, & ad peculiarem affectum inflectunt . . . Unde cognoscuntur Modi? Primum omnium respice vocis infimae sive Basis clavem finalem. Huic superadde 1. Diapente vel quintam perfectam. 2. Intermediam ab extremarum una per Ditonum, ab altera per Semiditonum distantem, & habebis Triadem omnis perfectissimae & plenissimae harmoniæ, quae dari in mundo potest, radicem, sonorum etiam mille & millies mille, qui omnes ad unam hujus Triadis partem referri debent." Crüger, *Praecepta Musicae Practicae* (Berlin, 1625), B, 6v-7r.

determining factor of the identification of the perfect mode. Of interest is the fact that if the fourth is added above or below this perfect mode triad, the ambitus of the authentic or plagal mode is also described. Therefore the authentic and perfect modes both contain the key triad common in root and range. Example 36 shows the Ionian mode triad with its ambitus of the authentic below the basic triad.

Example 36a. Ionian Mode Triad



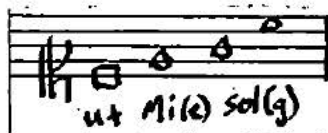
The best classification of the modes is, therefore, based on the triad within the mode. These triads will be either major or minor, depending on the intervallic structure of the modal scale. A further study of this major/minor mode classification will be discussed in the following chapter.

The reason this trias harmonica is important, is two-fold. First, the knowledge of the structure of the triad helps to understand the harmony of the universe; and second, a knowledge of the triad helps with a performance of the piece of music. Cruger says that if a person is singing in an ensemble then he should note the Trias Harmonica because the harmony of the piece will use this triad frequently and

most of the cadences will be on this triad.<sup>94</sup> For example, if the piece begins in C the triad will also be a C triad and will be called either an Ionian or a Dorian triad (if following Zarlino's practice). If this C triad is located at the start of the piece it will probably be located many times throughout the piece as well. Therefore, if the singer focuses on this triad he will never lose his sense of pitch relationship. It must be noted that Cruger does not infer that this focal triad of the piece is related to the other triads in the piece. He just states that the modal triad (major or minor) is the triad that occurs in most of the cadences (meisten clausula). There is one key triad that the piece focuses on but this is not a tonal reference point. Rather, it is a modal focal point. The root (or *prima*, or *radix*)

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94 "Beym singen ist auch nötig dieses wol in Acht zu nehmen dasz, wann einem Concert oder Motet fürkommt zu singen er alsbald sehe und observire aus welchem Clave der Gesang gehe und in welche Triade Harmonica derselbbe stehe. Denselben Clavem und dessen Ton musz er ihme nebst auch der Tertia und Quinta drüber wol einbilden/ und allezeit in mente behalten. Dann, weil in diesen 3. clavibus oder Trias Harmonica fürnehmlich die harmonia des Gesanges bestehet / und die meisten clausülen in demselben formiret/ und zum offtern wiederholet werden/ kan man in observirung dessen nicht so leichtlich irre werden/ und den rechten Ton verlieren kan auch dahero desto gewisser und dreister singen: Als zum Exemple: Gehet der Gesang auszm C hat man sich einzubilde den Triad Harmonicam C eg., Ut mi sol.



Cruger, *Musicae Practicae Praecepta Brevia*, (Berlin, 1660), pp. 17-18.

gradually came to be associated with the bass line, as opposed to the tenor line of earlier times. The bass formed the root of the triad. Discussions of inversions of the triad were not included in Crüger's treatises although Lippius did discuss the issue. The issue of figured-bass is closely related to the *Trias Harmonica*. The bass line was realized by using these triads. In order to understand Crüger's teachings on the subject of the *Trias Harmonica* and the practical realizations of figured bass the following section will include examples of both from his own treatises, and also comparative quotations from his source, Lippius.

Crüger begins the section on the Triad of music by saying that the "musical triad consists of three distinct dyads." He points out that when they are consonant intervals then they are harmonic and if they are dissonant they are anharmonic.<sup>95</sup> He quotes Lippius who also includes the term radical sounds. Lippius says that "The Musical triad consists of three distinct 'radical' sounds and dyads. It is consonant when they are consonant, dissonant when they are dissonant."<sup>96</sup>

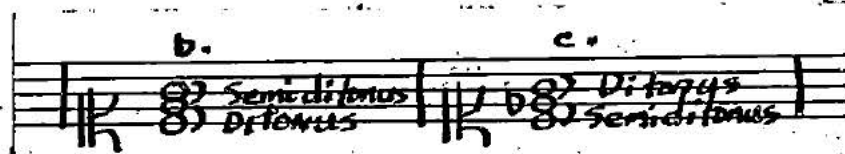
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<sup>95</sup>"DE TRIADE MUSICA. Trias Musica ex tribus Sonis, & totidem Dyadibus constat, & quidem ex consonis consonans seu Harmonica: ex Dissonis Dissonans, seu Anarmonica." Crüger, *Synopsis Musica* . . . (1654), p. 50 and Crüger, *Synopsis Musica* . . . (1630), *op. cit.*, Chapter VIII.

<sup>96</sup>"Trias Musica ex Tribus Sonis & Dyadibus Radicalibus distinctis constitua est: ex consonis, consonans: dissonans ex dissonis." Lippius, *Disputation musica tertia*, (Wittengerg, 1610), fols. B 2r-4r. as quoted by Rivera in *Johannes Lippius, op. cit.*, p. 332. and "TRIAS MUSICA ex tribus sonis, totidem Dyadibus Radicalibus constat Consonans seu Harmonica ex consonis, ex dissonis Dissonans seu Anarmonica." Lippius, *Synopsis Musicae novae*, (Strassburg, 1612), fols. F. 4r-7v as quoted by Rivera in *Johannes Lippius, op. cit.*, p. 343.

This concept of three dyads probably means that Crüger is referring to the three sounds (monads) in the triad each generating a dyad. The highest or chief point is the fifth but the middle, or Media, third is what produces the ringing vigorous sound that joins the chord calmly and sweetly.<sup>97</sup> This triad can consist of a Ditone (major third) on the bottom and a Semiditone (minor third) on the top (major triad) or a Semiditone on the bottom and a Ditone on the top (minor triad). The examples he lists are shown in Example 36 **b + c**.

Example 36 **b + c** Crüger, Triad Harmonica, *Synopsis* (1630), E3

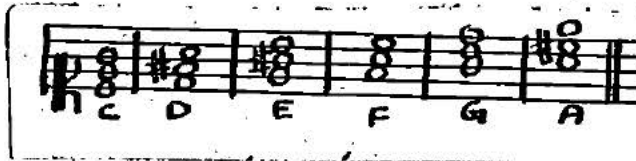


The examples of major triads given on root notes c, d, e, f, g and a, use accidentals to be intervallically correct. They are given in Example 37. Likewise, the triads can use flats to produce the correct minor intervals. Example 38 shows these. In the case of the triad starting on B several ways of adding accidentals can be used to

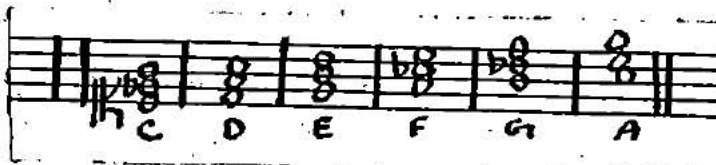
<sup>97</sup>"Soni tres seu Monades constituentes tres istas Dyades Harmonicas, & Triadem harmonicam sunt I. Dua extrema, scilicet prima seu Infima, & ultima seu summa ab illa genita, distantes a se invicem per Quintam. Deinde est una Media duas illas extremas perfecto, masculoq; tinnitu conspirantes, leniori sua dulcedine conjungens, exiisdem procedens interveniendo & distando ab illarum una per Ditonum: ab altera per Semiditonum hoc modo:" Crüger, *Synopsis, op. cit.*, (1630), Chapter VIII.

produce the correct triad. Crüger uses the natural sign  $\flat$  in place of the sharp  $\sharp$ . Example 39 shows this sequence of uses for the note B.

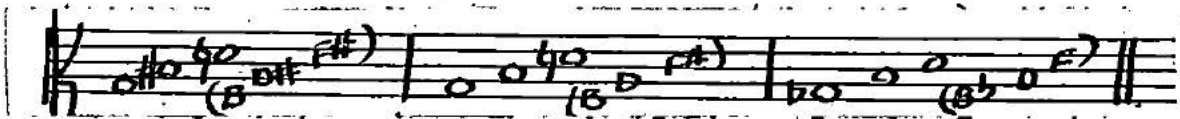
Example 37. Crüger, *Synopsis* (1630), E3, Major triads



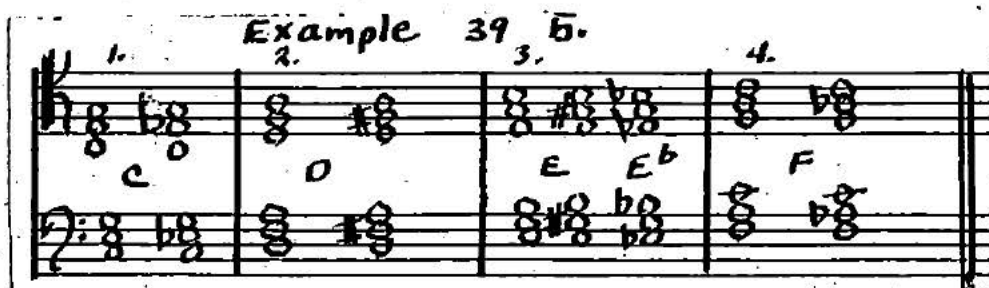
Example 38. Crüger, *Synopsis* (1630), Minor triads



Example 39. Crüger, *Synopsis* (1630), B triad



Example 39b shows the natural and minor triads based on the C scale. These triads are made complete by adding appropriate musica ficta.



Example 39b. Crüger, *Synopsis* (1630), Chapter VIII  
(cont.)

The image shows a handwritten musical score on two staves. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of several measures of chords. Above the first measure is a '5.' and above the second is a '6.'. Above the third measure is a '7.' and above the fourth is an '8.'. Above the fifth measure is a '9.' and above the sixth is a '10.'. The chords are written with various accidentals (sharps, flats, naturals) and some are enclosed in brackets. The bottom staff has some additional markings, including a 'B' and a 'Bb'.

Crüger concludes the chapter by saying that the triad is fuller in harmony if the octave is included,<sup>98</sup> and also that careful attention must be given to where the concentus is placed. Rules influence the progressions from one consonance to another but generally speaking the triads, because they have a common bond of a lowest (*Infima*) top (*Suprema seu Ultima*) and middle (*media*), can move gracefully from one to another.<sup>99</sup> These triads also give a form to the harmony

<sup>98</sup>"Composita Trias harmonica est, cujus partes sibi invicem vel vicinae, vel dispersae Octavis suis ad variam magis & plenioram harmoniam producendam auctae & multiplicatae sunt." Crüger, *Synopsis* (1630), *op. cit.*, Chapter VIII.

<sup>99</sup>"Ubi diligenter attendendum, ne soni nimium distrahatur, & disjungantur, concentus enim evanescit, & quasi Anarmoniam parit. Unde regula apud Musicos orta: Quo Soni sunt propinquiores eo sunt suaviores. Tolerari tamen possunt longè disjunctae consonantiae; quando medios sonos receperint, non ex multis sonis consonantibus concentus tolerabilis efficitur. In augendis verò & multiplicandis Triadis partibus repetenda est 1. Infima. 2. Suprema seu Ultima. 3. Deniq; media, sed rarissime & vix, quae dispositio Trinitatis harmonicae omnium naturalissima gratissima, & efficacissima, erit." Crüger, *Synopsis* (1630), *op. cit.*, Chapter VIII.

of the song.<sup>100</sup>

A set of figured-bass notations came to be associated with the sequential concertus of triads. The root or radix of the chord became very important in figuring the chord for the organist or accompanist. The rules Crüger used for showing the correct figured-bass realization came directly from Viadana and Agazzari,<sup>101</sup> whom he honors in the *Synopsis Musica* (1654) appendix dealing with the new Italian technique. Generally speaking, all of the examples Crüger uses show the triad to be in a 5/3 position with the root in the bass voice. The upper voices are varied in order to provide for a smooth progression in the harmonic line.

The correct realizations above the bass line were very important for smooth playing. Crüger stresses that the organist must be familiar with the Trias Harmonica in order to immediately form the correct harmony and progressions. He must also be familiar with the various natural and altered forms of the triad so that he need not ponder for a long while over which chord to use when accompanying the

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<sup>100</sup> "Et tantum etiam de Triade Musica, atq; adeo de omni materia cantionis harmonicae, cui jam debita Imponenda venit Forma." Crüger, *Synopsis*, (1630), *op. cit.*, Chapter VIII.

<sup>101</sup> "Bassus Generalis seu continuus, So von dem fürtrefflichen Italianischen Musico Ludovico Viadana erstlichen erfunden und eingeführet wird daher also genennet, weil er von Anfang des Gesanges bis zum Ende continuiert und als eine Generali Fundament Stimme das gantze Concert oder Motet in sich begreiffet." Crüger, *Synopsis* (1654), *op. cit.*, Appendix, p. 213.

singer.<sup>102</sup> The examples in the *Synopsis* (1654) show various resolutions of 5/3 chords based on typical bass passages that move by ascending or descending steps or leaps. The resolutions were written in a shorthand using, at first, the letter names of the triads in the order of progression. See Example 40 for the ascending progression of triads.

Example 40. Cruger, *Synopsis* (1654), p. 220.

1.	2.	3.	4.	5.
g	f	a	g	a
e	d	f	e	f
c	a	d	c	d
g	f	a	g	a

The mode of the above example is Ionian and therefore the fundamental Trias Harmonica would be  $\begin{smallmatrix} g \\ c \\ c \end{smallmatrix}$ . It can be noted that the c triad moved to a d triad (another 5/3 chord) but the positioning of the Suprema (5th) and Media (3rd) notes vary in their placement to accommodate a smooth movement from chord to chord. The root (radix) is always the doubled note, but the position of the doubling changes from soprano, to alto to tenor voices. Example 41 shows a realization

<sup>102</sup>"2. Musz er nicht [organist] allein im singen zimlich fertig sehn sondern auch das Fundamentum Compositionis etlicher massen verstehen/Insonderheit wie zu jedem Intervallo im Basz die ober partheyen per partes Triadum harmonicum progredientes, fürnehmlich juxta Tabulam naturalem . . . recht zu formieren sehn damit er nicht die consonantien und derer progressiones im schlagen erst zusammen suchen, ddor darauff lange speculieren dörrff." Cruger, *Synopsis*, (1654), *op. cit.*, Appendix, pp. 215-216.

of the chords figured by letter in Example 40.

Example 41. Realization of Example 40

The parts do not cross, but the tenor line often leaps upward by a fourth in the second position of the chord. The soprano and alto lines consistently leap upward by a third and resolve by falling a second.

Crüger also gives examples of bass realizations using leaps rather than step-wise passages. The realizations given in Example 42 show both ascending and descending leaps of patterns (*ascendendi* and *descendendi*). These are classified as regular (*Tabula naturalis*) and irregular (*Tabula necessitatis*) progressions.<sup>103</sup> The *Tabula naturalis* are the preferred resolutions but if the occasion demands then the *Tabula necessitatis* may be substituted. The large leaps in the tenor of the second type of realization are obviously not as good

<sup>103</sup>Dahlhaus points out that Crüger must have learned this categorization of *Tabula Naturalis* and *Tabula necessitatis* from Wolfgang Schonsleder, in *Architectonica musicae universalis* (Ingolstadt, 1631), pp. 4-7; and in *Herbst Musica Poetica* (1643), pp. 35-37. Taken from Dahlhaus, *Untersuchungen über die Entstehung der harmonischen Tonalität* (Kassel/Basel, 1967), pp. 108-109.

as the smaller leaps of the first type, but the ornamentation of the second type in the soprano line tends to give interest to the harmony. In the case of a duet between the soloist and the organist the second type of realization would be better. The colorful leaps of the *Tabula necessitatis* would also aid in certain affect representations if the words demanded a more agitated sound. It should once again be noted that the chords are in a 5/3 position and that the root is consistently doubled.

It is interesting to note which voices are doubled in a multi-voiced composition. Examples 43 and 44 show five- and six-voice realizations respectively. The root and third and fifth are all doubled excepting in the case of the note B which is never doubled. Occasionally the third (Media) of the chord is omitted. Ornamental passage work is seen in primarily one line of the passage. The general idea is to move as smoothly and closely intervallically as possible.

The practical realizations of the trias harmonica were found in the figured bass lines that Crüger included for the organist or keyboard player. In the appendix to the *Synopsis* (1654) Crüger extensively discussed this new Italian concept. He says that in order to be prepared to perform the music the organist must be ready or prepared to understand the fundamentals of composition, and in particular to be able to form correctly each interval in the upper parts in relation to the bass line using the principle of the *Triadum harmonicarum* (trias harmonica), especially the *Tabulam naturalem*.<sup>104</sup> The organist

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<sup>104</sup>Refer to footnote 102.

Example 42. Tabula Naturalis and Tabula Necessitatis. Crüger,  
*Synopsis* (1654), pp. 65, 66, 67

The image displays a musical score for a lute or guitar, consisting of 16 numbered measures. The notation is presented on a four-staff system, with the top two staves grouped by a brace on the left. The notation is a form of tablature, where notes are represented by circles on the staff lines, indicating fret positions. The measures are numbered 1 through 16. The first four measures (1-4) are grouped together, as are measures 5-8, 9-12, and 13-16. The notation includes various rhythmic values, such as quarter and eighth notes, and rests. The bottom staff is in a lower register, likely representing the bass line. The overall structure is a single melodic line with a supporting bass line.

Example 43. Five Voice Realizations Ascending and Descending,  
Crüger, *Synopsis* (1654), pp. 67, 68

The image displays a musical score for five voices, organized into two systems of eight measures each. The first system is labeled 1 through 8, and the second system is labeled 9 through 15. The notation is arranged in five staves, with the top staff being the highest voice and the bottom staff being the lowest. The notes are represented by circles, and the stems are shown as vertical lines. The score illustrates a sequence of ascending and descending melodic lines for each voice part. The first system shows an ascending sequence from measure 1 to 8, and the second system shows a descending sequence from measure 9 to 15. The notation is simple and clear, typical of early printed music.

64 DE SONIS  
Brevius.

Basso per Quintam ascendente sic naturalis superiorum modulati-  
onum progressio.

Ex Quinta ad Octavam supra

Bassum.

Ex Octava ad Tertiam.

Ex Tertia ad quintam.

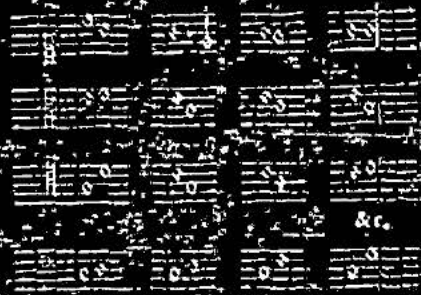


66

## DE SONIS.

que ab eâ non facile discedendum, mutata enim unius Vocis progressionem, omnes reliquæ superiorum Vocum progressionem mutantur.

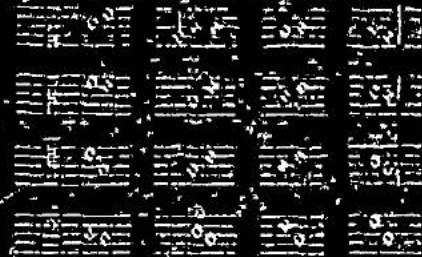
Si verò interdum necessitate urgente progressio Sonorum per partes Triadum aliter instituenda, fieri id poterit juxta sequentem, quæ Necessitatis dicitur Tabula, ita tamen, ut Tabula Naturalis maxime, & ante omnia observetur.

*Tabula necessitatis ascendendi.*

Ta

## CONJUNGENDIS.

67

*Tabula Necessitatis descendendi.*

IV. In Constituendâ Harmoniâ à quinque Vocibus, Quatuor Voces ex Tabula naturali delumuntur, Quinta verò ex Tabula necessitatis, ut



Sic

68 DE SONIS  
Sic descendere Melodia fundamē ali



5. Sic in concensu a 6 Vocibus ite-  
rum quatuor ex Tabula Naturali de-  
sumuntur: Reliquæ duæ ex Tabula  
Necessitatis.



CONJUNGENDIS 69  
Sic descendente Melodia funda-  
mentali.



CAPUT IX.

Continens leges seu Regu-  
las quasdam in Constituendâ  
boni & purâ Harmoniâ obser-  
vandas.

IN constituendo aliquo concensu  
Musico maxime in id incumben-  
dum.

must also have memorized and be familiar with the modes and be able to correctly resolve intervals, especially the major and minor sixths and thirds.<sup>105</sup> The organist must pay attention to the fact that the *concerto* is going to be either in a major or minor mode and must be aware of the *Claves Intellectas*<sup>106</sup> and the *Claves Signatam* in order to recognize the notes quickly.<sup>107</sup> The organist must be able to find the fundamental note of the key as it is found in the General Bass and then consider whether it should be played with the fifth or third, or the whole octave together with the fifth.<sup>108</sup> The right hand should play either the octave or the third (tenth as well) against the fundamental. It can also play the third and fifth together. However, one must be careful that the third does not occur in both hands together

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<sup>105</sup>"Muss er die modos Syncopationum durch alle Claves und Intervalla fertig wissen und im Kopff habē, wie die bösen Species in gute zu resolviren, und die Tertiae & Sextae majores & minores recht zu unterscheiden sehn. Davon hernach mit mehrerm Bericht geschehen soll." Crüger, *Synopsis*, (1654), *op. cit.*, Appendix, p. 216.

<sup>106</sup>"I. Die Natur des Concerts ob es nehmlichen in Cantu mollis b or Duri  $\frac{4}{4}$  gesezet; Wie auch in gleich den Clavem Signatam auff welcher Linea derselbe stehet, und daneben ihme wol bekandt machen die ander Claves Intellectas, damit er primo intuitu, und im ersten ansehen stracts weisz, was auf jede lineam und spatium vor ein Clavis fallt und nicht lange darauff nachdencken darff." Crüger, *Synopsis* (1654), *op. cit.*, Appendix, p. 217.

<sup>107</sup>Claves Signatae are those clefs which occur on G, C or F lines. Claves Intellecta occur on the lines A B C or D. Crüger, *Kurtzer* . . . (1625), *op. cit.*, Chapter I.

<sup>108</sup>"II. Musz er ihm schlagen dahin bedacht sehn, dasz er unten mit der lincken Hand zu einer Fundament Nota, so im General Basz gefunde wird entweder eine blosse Quintam alleine: Oder auch mit der Tertia darzu: Oder eine gantze octav allein, oder mit der Quinta zusammen greiffe." Crüger, *Synopsis*, (1654), *op. cit.*, Appendix, pp. 217, 218.

and thereby have a doubled octave. The organist should watch the vocal parts as they are sung and must strike the chords (*concordantien*) as based on the fundamental note with consideration to other harmony notes fitting with the vocal parts.<sup>109</sup>

All of these quotations about figured-bass realization imply that knowledge of the trias harmonica is extremely important. Crüger gives examples of how to form the triad above an ascending scale bass and a descending scale bass. The ascending example is identical to the one quoted on page 220 of the same Synopsis (1654) and shown in Example 40 of this paper. The resolutions of the descending scale are a retrograde version of the ascending scale.

When the bass climbs up or down by leap or major interval such as a third, fourth, or fifth, one must proceed with the right hand by degrees to the next following consonance because jumping with both hands is not very good. It is not only ill-sounding and disagreeable to hear but also unmusical (impolite) as it has no satisfactory con-

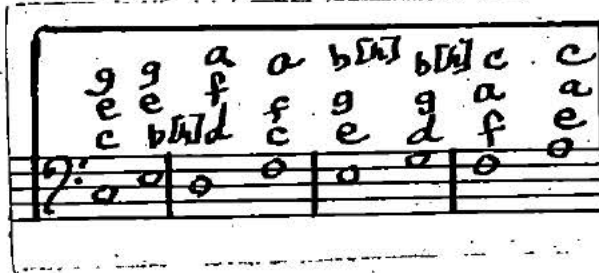
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<sup>109</sup> "Mit der rechten Hand aber entweder die octav allein zu der Fundament Nota: oder die Tertia, welche gegen dem Fundament die Decima ist darzu: oder die Tertia und Quinta, welche die Duodecima ist, zusammin, wie sichs am füglichsten thun lest. Jedoch musz man dahin sehen, dasz die Tertia nicht leichtlich in beyden Händen zugleich in der octav, und also gedoppelt gebraucht werde. Ist also nicht nötig, dasz der Organist die Vocal-Stimmen wie sie gesungen werden im schlagen observire, sondern nur für sich selbste die Concordantien völliglich zum Fundament greiffe." Crüger, *Synopsis*, (1654), *op. cit.*, Appendix, p. 218.

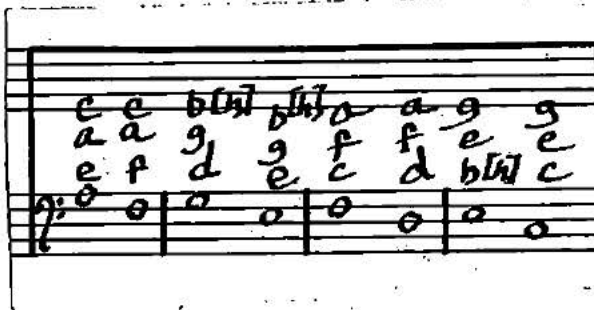
clusion, only empty octaves and fifths.<sup>110</sup> The organist is advised to use satisfactory progressions based on the Tabulae Naturales Bass patterns. These parts are artfully resolved in the following ways:

- (a) Bass progressing upwards and downwards by thirds, Examples 44 and 45 from *Synopsis* (1654) pp. 121 and 122.

Example 44. Crüger, *Synopsis* (1654), p. 121.



Example 45. Crüger, *Synopsis* (1654), p. 122.



<sup>110</sup>v. Wann der Bass. per Saltus, oder Intervalla majora, als Tertien, Quarten, Quinten, &c. herauff oder herunter steigt muss man mit der rechten Hand per gradus fortgehen zu der nechst=folgenden consonantia, den mit beyden Händen zugleich springen ist gar nicht gut weil es nicht allein zu hören unfreundlich and unlieblich: Sondern auch mit anzusehen fast unhoflich als dabey keine Verenderung: Sondern eitel octaven und Quinten zu vernehmen.

Hierzu sind dienlich die Tabulae naturales Bassi per Tertiam, Quartam, Quintam progredientis. Woraus sattsam zuersehen wie die Obern and Mittel Partheyen zu solchen Fundament Intervallen artlich und natürlich zu formiren . . ." Crüger, *Synopsis* (1654), *op. cit.*, Appendix, pp.220-221.

- (b) Examples of progressions where the bass or fundament moves upwards or downwards by fourths, shown in Example 46.

Example 46. Cruger, *Synopsis* (1654), p. 212

Handwritten musical notation for Example 46, showing a progression of chords with bass or fundament moving by fourths. The notation is written on a five-line staff with a treble clef and a common time signature. The notes are arranged in three rows, with the bottom row representing the bass line. The notes are: Row 1: g a a b| b| c c| b| b| a a g; Row 2: e f f# g g a a g g f f e; Row 3: c c d d e e e e d d c c. The bass line consists of whole notes: c, d, e, e, e, e, d, d, c, c.

- (c) Examples of progressions of movements in the bass by fifths as seen in Example 47.

Example 47. Cruger, *Synopsis* (1654), Appendix, pp. 222-223

Handwritten musical notation for Example 47, showing a progression of chords with bass or fundament moving by fifths. The notation is written on a five-line staff with a treble clef and a common time signature. The notes are arranged in two systems, each with three rows. The notes are: System 1, Row 1: d d e e g g a a; System 1, Row 2: b| a c b| e d f e; System 1, Row 3: g f a g c b| d c; System 2, Row 1: a a g g e e d d; System 2, Row 2: e f d e b| c a b|; System 2, Row 3: c d b| c g a f g. The bass line consists of whole notes: c, d, e, e, e, e, d, d, c, d, e, e, d, d, c, d, e, e, d, d.

If the bass moves in an ornamented fashion with tiratas in Semiminims, Fusas, or Semifusas, the upper hand must remain solidly in position and may not move according to the individual notes in the bass; rather, (the right hand) must move according to the progression of the consonances. This is shown in a number of examples on pages 223 and 224 of the *Synopsis* (1654). These examples are given in Example 48.<sup>111</sup>

Example 48. Crüger, *Synopsis* (1654), pp. 223-224.

The image displays two systems of musical notation, each consisting of two staves. The top system features a treble clef with a G-clef and a bass clef with a C-clef. The top staff contains five chords, and the bottom staff contains a series of rhythmic patterns, including groups of sixteenth notes and eighth notes. The bottom system also features a treble clef with a G-clef and a bass clef with a C-clef. The top staff contains four chords, and the bottom staff contains a series of rhythmic patterns, including groups of sixteenth notes and eighth notes. The notation includes various accidentals, such as sharps and naturals.

<sup>111</sup> "VI. Wenn der Bass mit einer Tirata, oder sonsten einem Lauflein durch Semiminimas, Fusas, Semifusas nach einander in die Höhe steigt, musz die ober Hand fest stehen bleiben und darff nicht einer jedern Noten ihr besonder accord oder consonantia zugeeignet werden." Crüger, *Synopsis*, (1654), *op. cit.*, Appendix, p. 223.

Example 48 continued.

Handwritten musical notation for Example 48 continued. The first system consists of two staves. The upper staff contains four chords: a triad of G4, B4, D5; a triad of A4, C5, E5; a triad of B4, D5, F#5; and a triad of C5, E5, G5. The lower staff contains four groups of eighth notes: G4-A4-B4, A4-B4-C5, B4-C5-D5, and C5-D5-E5. The second system also consists of two staves. The upper staff contains four chords: a triad of G4, B4, D5; a triad of A4, C5, E5; a triad of B4, D5, F#5; and a triad of C5, E5, G5. The lower staff contains four groups of eighth notes: G4-A4-B4, A4-B4-C5, B4-C5-D5, and C5-D5-E5.

Another Type.

Handwritten musical notation for 'Another Type'. The first system consists of two staves. The upper staff contains four chords: a triad of G4, B4, D5; a triad of A4, C5, E5; a triad of B4, D5, F#5; and a triad of C5, E5, G5. The lower staff contains four groups of eighth notes: G4-A4-B4, A4-B4-C5, B4-C5-D5, and C5-D5-E5. The second system also consists of two staves. The upper staff contains four chords: a triad of G4, B4, D5; a triad of A4, C5, E5; a triad of B4, D5, F#5; and a triad of C5, E5, G5. The lower staff contains four groups of eighth notes: G4-A4-B4, A4-B4-C5, B4-C5-D5, and C5-D5-E5.

If the progression of the fundamental bass notes happens to go disjunctly with notes, such as minims, semiminims, fusas etc. by thirds, fourths, or fifths then the organist must fit the accompaniment to particular consonance in the following fashion:<sup>112</sup>

Example 49. Crüger, (1654), p. 225



Crüger adds that the organist must diligently pay attention to the subsequent signatures over the notes such as #/b/ 4 3/ etc. as well as watch the fundamental notes and realize the trias harmonica chords correctly.<sup>113</sup>

The explanation of the sharp # and flat b signs are simple. If the fundamental note has a sharp over it, the triad is major and if there is a flat above it the triad is minor. The 4 3 symbol stands

<sup>112</sup>"VII. Wenn aber die progressionen der fundament Noten mit disjungirte schwartze Noten, als: Minimis, Semiminimis, Fuis &c. durch Tertien, Quarten, Quinten, &c. geschehen, musz man einer jedern Noten ihre accompagnaturam, Gesellschaft und absonderliche Concordanz zu eignen, ... ." Crüger, *Synopsis*, (1654), *op. cit.*, pp. 224-225.

<sup>113</sup>"VIII. Nebst diesem musz ein Organist auch mit Fleisz in acht nehmen folgende Signaturen, so über etlichen Noten befunden werden, als: #/b/ 6/ 4 3 / 4/ 3 4 3/ # 4/ 7 6 5 / etc." Crüger, *Synopsis*, (1654), *op. cit.*, p. 225.

for a suspension over the bass line. In this case the 3 could stand for either a major or a minor third. However, if the symbol is 4 # then the third following the suspended fourth must be a major third. Crüger notes that the fifth must always be struck so that the concentus will be perfect.<sup>114</sup> This statement once again stresses the importance of the full trias harmonica including the third and fifth. No longer was the thinking only in a suspended dyad but also in terms of a suspended triadic figure. When the figure is #4# or 3 4 3 then the fundamental note is divided by 4 parts. The first part requires a major third, the second and third parts have a major fourth and the last returns to a major third. The dissonant note in the middle (major fourth) takes half the time of the fundamental note. The implication here is that the dissonant note is not stressed by its position on a strong beat, like the suspended 4 3 chord, but it is stressed by the length of time value. This latter technique was often used in keyboard accompaniment. The first part of the 3 4 3 part suspension would be joined to the fifth, the second to the sixth and the third and fourth parts to the fifth. This would make perfect harmony if resolved correctly.

The resolutions of these # 4 # and 3 4 3 triads is given in Example 50 taken from page 229 (228) of Crüger's *Synopsis* (1654).

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<sup>114</sup>"Es musz aber die Quinta allezeit mit gegriffen werden damit der Concentus volk"omlich wird." Crüger, *Synopsis*, (1654), *op. cit.*, p. 226.

Example 50. Crüger, *Synopsis* (1654), p. 229

The musical score for Example 50 consists of three measures. Each measure is divided into two systems of staves. The top system contains a treble clef staff with a melodic line and a bass clef staff with a figured bass line. The bottom system contains a bass clef staff with a figured bass line. The notes in the treble staff are: Measure 1: G4, A4, B4, C5; Measure 2: F#4, E4, D4, C4; Measure 3: B3, A3, G3, F#3. The figured bass notation is: Measure 1: 565 343 #4#; Measure 2: 65 343 #4#; Measure 3: 6 343 #4#.

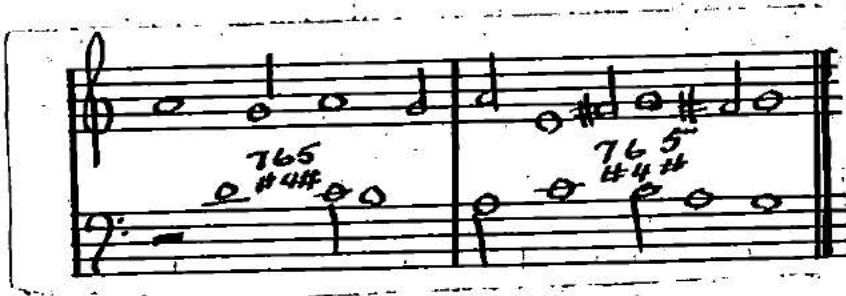
In the case of the 7 6 5 progression, the fundamental is again divided into four timeparts. The first part has the bass with the seventh and the major third, the second and third parts have the fourth and major third together forming a strong dissonant section, and finally the major third and fifth are struck together. The seventh must fall in order to resolve correctly. Example 51 shows how Crüger explained this musically.

Example 51. Crüger, *Synopsis* (1654), p. 229

The musical score for Example 51 consists of two measures. Each measure is divided into two systems of staves. The top system contains a treble clef staff with a melodic line and a bass clef staff with a figured bass line. The bottom system contains a bass clef staff with a figured bass line. The notes in the treble staff are: Measure 1: G4, A4, B4, C5; Measure 2: F#4, E4, D4, C4. The figured bass notation is: Measure 1: 765 #4#; Measure 2: 765 #4#.

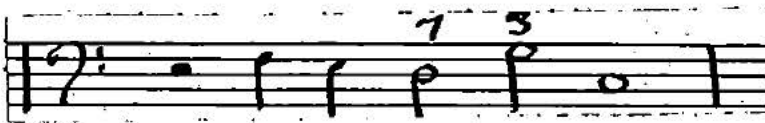
If a 6 is placed over the fundamental note then a sixth must be played instead of the fifth. Crüger does not discuss the implications of chord inversions at this point. Rather he just says that if one descends the sixth in the c octave (scale) and a cadence is needed then a major sixth must be struck.<sup>115</sup>

Example 51<sup>b</sup>. Crüger, *Synopsis* (1654), p. 229



sometimes the seventh also goes well followed by the third. See Example 52 for the resolution.

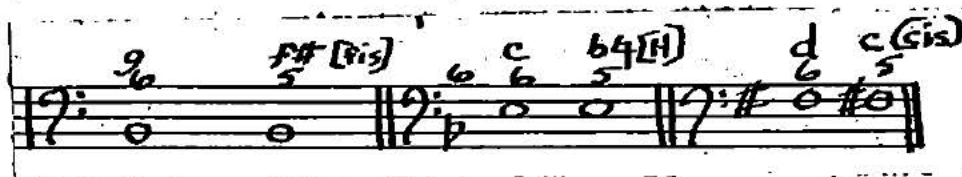
Example 52. Crüger, *Synopsis* (1654), p. 229



<sup>115</sup>"Stehet eine 6 über der Fundament Nota musz an stat der Quinten eine sexta gegriffen werden. Dabey zu mercken: Wenn man von der sexta in die c octavam felt und eine cadentia machet, musz es sexta Major sehn." Crüger, *Synopsis*, (1654), p. 229, Section XIII.

Crüger gives some indication of when a major or minor sixth is to be used by saying that if the fundamental note is on B (H) then the sixth may be on G. However, if the note G#(sol) is used then the fifth F must be sharpened to F# and the lowered form must never be used. Likewise in the key of E minor (*cantu molli*) the B (H) not the Bb must be struck if the fifth (C) is used. Other examples would be the use of the F# above the B if the interval was a sixth above B on the preceding chord. Then, C# would be used rather than C natural if the interval using the D as a sixth above F# occurs. The resolutions are given in Example 53.

Example 53. Crüger, *Synopsis* (1654), p. 230



Other helpful notes for resolution are also given in this chapter.

For instance, if the bass descends a fifth or climbs a fourth then a major third should be used in the bass realization, whereas, if the bass climbs a fifth or descends a fourth a minor third should be used. <sup>116</sup>

<sup>116</sup> "Wenn der Bass in die Quint herunter felt, oder in die Quart herauff steigt wird naturaliter tertia major gebraucht: steigt der Bass aber in die Quint herauff: oder felt in die Quart herunter, teria minor and ist keine cadentia, . . ." Crüger, *Synopsis*, (1654), *op. cit.*, p. 230.

The last section of the General-Bass chapter gives information about performance practices in relation to the resolution of these triadic chords. The organist is advised to avoid the high and clear voices on the instrument and to remain in the lower range because they could stifle and hinder the singing descant voices.<sup>117</sup> Crüger quotes Viadana in the use of parallel fifth or octaves in the process of accompanying singers whose lovely passages of trills and tirades are not to be obscured by bad organ playing.<sup>118</sup> The organist is to study the concerto beforehand so that he can more perfectly accompany the singer.

Crüger stresses that the organist must know the general-bass patterns well so that the notes proceed without too many runs or ornaments and the fundamental bass is prominent. If this is done correctly then the meaning of the words will not be obscured.<sup>119</sup>

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<sup>117</sup>"Die hohen und hellen Stimmen soll man gantz vermeiden und auff dem Clavier continuè unten verbleiben weil sie die singende- insonderheit Discant Stimmen uberteuben, und verhindern." Crüger, *Synopsis*, (1654), *op. cit.*, pp. 230-131.

<sup>118</sup>"Lud: Viadana. Es ist auch keinem Organisten verboten dis- weilen 2. Quinten oder 2. Octaven zu gebrauchen sondern sol nur ver- hüten, damit er das jenige oder dieselbe Noten nicht berühre welche die Cantores insoderheit Discantisten in ihren Stimmen singen, damit nicht ein gedoppeltes gemacht und dadurch die lieblichkeit die ein guter Sänger mit Tiraten, Trillen, and andern schönen passaggien machet, verdun- ckelt werde." Crüger, *Synopsis*, (1654), *op. cit.*, p. 231.

<sup>119</sup>" . . . dasz er ausm Generall Bass gar simpliciter und schlecht, doch so rein und . . . ohne viel leufflein oder Coloraturen, fürne- hmlich in der lincken Hand, in welcher das Fundament geführet wird." Crüger, *Synopsis* (1654), *op. cit.*, pp. 231-232.

The general bass realizations all revolve around the trias harmonica concept. The process of realization was in an infantile stage as all of the progressions were based on first position chords. However, there was a marked differentiation between major and minor triads and the situations in which they were to occur. The concept of the trias harmonica can be better understood in relation to the concept of harmony when a study is done of the major and minor triads within the modes. The key to understanding the general-bass realizations copied from Viadana is found in the background of modal harmony that evolved through the previous ages. The concept of major and minor had always been prevalent but the classification of the modes according to major and minor trias harmonicas within the modes was new to this historical period. In conclusion then, the trias harmonica was a major or minor triadic chord found within the modes. It was used as the harmonic base for a composition but the general-bass realizations only outlined the resolution patterns of the trias harmonica. These did not provide a unified tonal bass line. The trias harmonica definitely evolved from the modal scale, and although it somewhat resembled the tonal centre of the key it did not predetermine the harmony of the piece. The resolution of the bass line was still thought of in the relationships of one triad to the next. The focus was on the proper resolution of the triads, not the sequential relationships of one triad to another as part of a unified whole (key). These major-minor aspects of triadic modal theory will be discussed in more detail in the following chapter.

*CHAPTER 7**MAJOR-MINOR CONCEPTS OF TRIADIC MODAL THEORY*

During the early seventeenth century the issue arose in German music theory whether the modes should be differentiated by octaves or by the trias harmonica. Many of the school manuals of the German Lateinschulen,<sup>o</sup> including the ones written by Crüger, discussed this topic at length. The concept that the tonic triad should be the differentiating factor in mode classification gradually became more prominent during the latter half of the seventeenth-century and in the early eighteenth century. Crüger's views on the subject stem from Glarean and Zarlino in regard to octave differentiation, and from Lippius in respect to triadic major-minor differentiation. Before Lippius' time the mode had been defined according to the pattern of intervals within the ambitus of the octave species. The octave species was divisible harmonically and arithmetically. To identify the mode of a melody the octave species of the piece was compared to the twelve (or eight) modes and the correlation between the two could be found. Traditionally, Glarean and Zarlino became the authorities on mode identification, ordering and classification.

With the new trend towards triadic thinking modal classification also changed. Lippius presented mode classifications as being directly related to the trias harmonica found within the modal ambitus. He

defined the mode as that which controlled the melody at the beginning, middle and end, and it is related to the harmonic triad and is limited to an octave range: "Musical mode is either simple or compound; simple is that in which one triad dominates, along with the range of its octave. . . . A compound mode is derived from the simpler modes: either from a related primary and secondary mode such as Ionian and Hypoionian, which is common; or from wholly diverse modes, such as Ionian and Dorian, which is less common."<sup>120</sup> Lippius went further and reduced the number of modes from twelve to two.<sup>121</sup> He said,

In every legitimate primary mode the principal proper harmonic triad is that whose root is the same as the lowest note of the (modal) octave . . . Hence, we reduce these six (twelve with the compound modes) modes to two: one which has the *naturalis* triad, the other which has the *mollis*. The trinity--of

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<sup>120</sup>"Modus Musicus est vel Simplex: vel Compositus. Simplex est, in quo una saltem dominatur Trias Harmonica cum suae Octavae Circulo . . . Compositus Modus ex Simplicioribus pronascitur: & vel ex cognatis Primario & Secundario, ut Ionico & Hypoionico, qui creber; vel ex plane diversis ut Ionico & Dorio . . . qui minus consuetus." Lippius, *Synopsis* (Strassbury, 1612), fols. H8<sup>v</sup>, I<sub>3</sub> translated by Joel Lester in "Major-Minor Concepts and Modal Theory in Germany, 1592-1680," (*J.A.M.S.*, Vol. 30, 1977), p. 225.

<sup>121</sup>The twelve modes were broken into six primary and six compound modes and two spurious modes. These were listed as follows by Glarean:

Mode	Primary	Compound
1. Ionian		Hypoionian
2. Dorian		Hypodorian
3. Phrygian		Hypophrygian
4. Lydian		Hypolydian
5. Mixolydian		Hypomixolydian
6. Aeolian		Hypoaolian
Spurious		
7. Hyperaolian, Hypohyperaolian, or hyperphrygian		

modes--of each type is formed according to the same triad --from which the special ornaments, fugues, and cadences of harmonic song would be chosen and formed.<sup>122</sup>

The major modes were the primary modes and their compounds, namely, the Ionian, Lydian and Mixolydian; and the minor modes were the Dorian, Aeolian, Phrygian and their compounds.

The concept of major and minor modes had been discussed earlier by many authors. Glarean in his *Dodecachordon* (1547) and Zarlino in his *Institutione Harmoniche* (1573) had suggested the contrast between the major and minor modes.<sup>123</sup> Neither, however, supported the two mode system; rather, they supported a twelve mode system. Glarean defined the mode thus: "Musical modes are nothing but the consonant species of the octave itself, and the very ones [species] which are joined together from the various species of fifths and fourths as we have said above concerning intervals."<sup>124</sup>

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<sup>122</sup>Lippius' *Disputatio tertia*: "Est in omni Modo primario legitimo propria Trias Harmonica potissima cujus Basis eadem est cum voce Infima suae octavae: . . . Hinc 6 Modos illos stringimus ad duos: unum, qui tenet Triadem Naturalem: alterum, qui Mollem: quorem uterq(ue) Trinus est juxta eandem Triadem, ex qua, quod mirum, praecipua Cantilenae Harmonicae ornamenta Fuga & clausula sunt desumenda atq(ue) formanda." Translation of Lippius' *Disputatio tertia*, fol. D3V by J. Lester, "Major-Minor . . ." *op. cit.*, p. 227.

<sup>123</sup>Bukofzer, *Music in the Baroque Era*, (New York: Norton, 1947), p. 387.

<sup>124</sup>Glarean, *Dodecachordon*, Book I, Chapter II: "Modi musici nihil aliud sunt quam ipsius Diapason consonantiae species, quae et ipsae ex variis diapente ac diatessaron speciebus conflantur, ut supra de intervallis diximus." Translation taken from J. Lester, "Major-Minor . . ." *op. cit.*, p. 210.

The characteristics of the intervals within the species of fourths or the species of fifths within the octave, then, are the criteria for naming the mode. The natural ordering would occur if Dorian began on C, Ionian on A, Phrygian on D, Lydian on E, Mixolydian on F, and Aeolian on G. The mode beginning on B would be called spurious.

Zarlino's *Institutioni* written in 1573, twenty-six years after Glarean's *Dodecachordon* (1547), differs in the ordering of the twelve modes but agrees with the twelve-mode concept. Zarlino lists the order according to the seven octave species from C to B: C as being Dorian, D as Phrygian, E as Lydian, F as Mixolydian, G as Ionian and A as Aeolian. Gustav Reese claims that this ordering is due to a conscious choice on Zarlino's part to put the Ionian and Aeolian modes in a prominent position, insinuating that the major-minor idea was gaining prominence.<sup>125</sup> Joel Lester contends that this supposition is incorrect because many seventeenth century theorists used Dorian and Ionian as a model for major- and minor as opposed to the Aeolian-Ionian pairing.<sup>126</sup> Beswick supports this idea as he found that the most popular modes used in composition in the early seventeenth century were the Dorian or transposed Dorian, and the Ionian and transposed Ionian.<sup>127</sup> It is supposed that Zarlino's reason for a re-ordering of

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<sup>125</sup> Gustav Reese, *Music in the Renaissance*, (New York: W.W. Norton, 1959), p. 377.

<sup>126</sup> J. Lester, *op. cit.*, pp. 215-216.

<sup>127</sup> Beswick, *op. cit.*, p. 67.

the modes was not to emphasize the major-minor duality; rather, it was to return to an ordering set by the ancient Greeks. A was the first letter of the alphabet, but because there should be no mode on B the note D was selected by Glarean. Zarlino believed that the ordering should begin with C rather than A or D because this would eliminate any skips over the B in the seven successive finals of the authentic modes.<sup>128</sup>

Zarlino, therefore, does not consider the modes in the light of major or minor differentiations, but he does define affect in the light of the harmonic (triadic) intervals which arise over important notes in the octave species. He said:

The property or nature of the imperfect consonances is that some of them are lively and cheerful, accompanied by much sonority; and some though they are sweet and smooth tend somewhat towards sadness or languor. The first are the major thirds and sixths and their compounds (major triads): and the others are the minor (thirds and sixths--minor triads).<sup>129</sup>

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128, . . . . dalla Divisione harmonicamente fatta della Diapason nelle sue parti . . . nasce uno ordine de intervalli: nel primo de i quali, che è il piu grave, si ritrova il Tuono maggiore: nel Secondo il minore: & nel Terzo il maggior Semituono. Simigliantemente di nuovo nel Quarto è collocato il Tuono maggiore: nel Quinto il minore: nel Sesto ancora il Tuono maggiore: & nel Settimo & ultimo posto nell' acuto si trova il Maggior semituono: chiaramente compresi, che tale Diapason: divisa secondo la natura del Numero harmonico: è collocata tra le nostre moderne chorde: C, D, E, F, G a. 4 c." Zarlino, *Demonstrationi Harmoniche*, pp. 270-271.

129, "Della Proprieta, o natura della consonanze Imperfette. Cap. 10. Il proprio, o Natura della Consonanze imperfette è, che alcune di loro sono vive & allegre, accompagnate da molta sonorità: & alcune, quantunque siano dolci & soavi, declinano alquanto al mesto, overo languido. Le prime sono le Tertze & le Seste maggiori & le Replicate: le altre sono le minori." Zarlino, *Institutioni* (Venice, 1558), p. 182. Translation given above is by J. Lester in "Major-Minor . . ." *op. cit.*, p. 216.

The concept of two groupings of modes, based on major or minor triadic characteristics, is a far cry from Zarlino's distinction of differentiation based on affect. Lippius' definition of the modes was not based on affect. He changed the whole concept of modal thinking. Lippius replaced the study of counterpoint with a study of harmony based on the triad. His suggestion led to the composition of music from the bass rather than the tenor line. This composition from the bass led to a further dissemination of the practice of adding a figure to the bass to determine what triad (chord) the keyboard player should use. Figured-bass discussed in the previous chapter was just a shorthand method of writing down the relevant triadic chord. Both Lippius and Cruger used the modes as their basis of operation but the terminology was starting to change. Both started to see the modes as being able to be grouped into two classes, major or minor, depending on the trias harmonica within. This was not in opposition to Glarean and Zarlino; rather, it was a further reclassification of the twelve traditional modes.

Lippius did more than classify the modes into major and minor. He also wrote that the triad of each mode determined the location of the various cadences. Each mode was considered to have three "proper" cadences: a primary cadence on the final or *Prima*, another secondary cadence on the fifth or *Suprema* and a third cadence on the *Media* or third of the chord. These cadences Lippius considered as ornaments of duration.<sup>130</sup> This cadencing on the notes of the triad shows the

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<sup>130</sup>"Omnis modus Simplex, quod mirum, ex sua propria quique Triade

supremacy of the triad in composition but it does not lead to the conclusion that there is a relationship between the triads as is inherent in a tonal system. Lippius' contribution, then, to triadic modal theory is the presentation of the triad as the key determining factor in mode classification and identification.

The terms *moll* and *dur* (minor and major, respectively) became the new bywords in the discussion of musical composition. Students were asked to study the differences of affect in major or minor modes so that they could sing the pieces correctly. Not only were the compositions analyzed in terms of major and minor *trias harmonica* chords, but performers were asked to dwell on the predominant triad because the harmony of the piece would consist mainly of this triad. Crüger calls this a specific *key* (clave) in which most of the cadences resolve on a specific triad. One must be very careful not to confuse the word *key* with the modern day sense of the word. Crüger refers to the various modal scales based on the natural (*dur*) or soft (*moll*) hexachords not the major (*dur*) or minor (*moll*) keys associated with post-Rameau theory. He does caution the singer to remember this *key* and its triad because most of the cadences will occur on the triad and the singer can easily avoid making mistakes by losing the correct

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Harmonica dat Cantilenae Harmonicae praecipua Ornamenta, Fugus nimirum & Clausulas proprias Primarias, Secundarias, & Tertiarias, quibus deinde accendere possunt interdum Peregrinae ex Triade aliena, modo bene quadrent. Primaria Fuga & Clausula est a Prima Triadis Propriae: Secundaria a Suprema: Tertiaria a Media:" Lippius, *Synopsis*, (Keiffer: Strassburg, 1612), Cap. I. 3r.

note (the lowest note is the basis of the *trias harmonica*).<sup>131</sup>

Crüger became the first composer to explain, using examples, just what this new Lippian idea of major-minor triadic classification meant to musical composition. Crüger did change his views on modal thinking during his lifetime. At first he followed the trend set by Lippius but later he became more conservative and he ascribed to the modal theories of Glarean and Zarlino. In the *Musica Practica* (1625) he referred to Zarlino's mode ordering. He listed the modes in the following order and beside each mode pair he listed the major (*dur*) or natural hexachord beside the minor (*mol*) or soft hexachord that could be found in the species of fourth or fifth above or below the natural hexachord. When considering a specific mode, it should be noted that this mode can be in its natural location (natural hexachord) or it can be transposed using the soft hexachord (for example the one beginning on F). The terms *dur* and *mol* relate to whether the hexachord uses a B $\flat$  or a Bb. If it is a  $\flat$  it is *dur* and if it is b it is *mol*.

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<sup>131</sup> "Beym singen ist auch nohtig dieses wol in Acht zu nehmen dass wann einem ein Concert oder Motet fürkommt zu singen er alsbald sehe und observire, aus welchem Clave der Gesang gehe und in welchem Triade Harmonica derselb bestehe. Denselben Clavem und dessen Ton muss er ihme nebest auch der Tertia und Quinta drüber wol einbilden und allezeit in mente behalten. Dann weil in diesen 3. clavibus, oder Triade Harmonica fürnehmlich die harmonica des Gesangs bestehet und die meisten clausulen in demselben formiret und zum öfftern wiederholet werden kan man in observirung dessen nicht so leichtlich irre werden und den rechten Ton verlieren kan auch daher desto gewisser und dreister singen . . ." Crüger, *Musicae practicae praecepta brevia* (Berlin 1660), pp. 17-18.

Crüger, *Praecepta* (1625) Chapter VII.

MODE		(Natural Hexachord)	(Soft (Hexachord)
		DUR	MOL
1. Ionian	Hypoionian	C e g	F a c
2. Dorian	Hypodorian	d f a	g <sup>b</sup> d
3. Phrygian	Hypophrygian	E g <sup>b</sup>	A c e
4. Lydian	Hypolydian	F a c	B <sup>b</sup> d f
5. Mixolydian	Hypomixolydian	G( <sup>b</sup> )d	c e g
6. Aeolian	Hypoaolian	A c e	d f a
7. Hyperaolian - (Hyperphrygian - no chords are mentioned for these spurious modes)			

Crüger lists the Ionian mode as the first mode, because he says that it is the most natural of all (according to Lippius) because it is a major triad whether it is in its natural location (c e g) or in its transposed location (f a c).<sup>132</sup> Although he lists the Ionian mode as the first mode, Crüger does not call it this in his compositions. In his *Magnificat*, published in 1626, he started the sets with the Dorian mode and progressed through the mode listings until he reached mode V (*Quinti Toni*) which has its final on A (Aeolian triad) in the piece "Meine Seele." The next piece is written in the sixth mode (*sexti Toni*) and has its final on F, the final of the compound Hypoionian form of the Ionian mode. This mode ordering, beginning

<sup>132</sup>Crüger, *Praecepta*, (1625), Chapter VII.

with the Dorian mode as mode I, refers to Glarean's mode ordering. In theory Crüger was following Lippius' principles (Zarlino's mode ordering) in 1625, but in practice he used Glarean's more conventional mode ordering scheme.

Crüger uses this same mode ordering in his *Synopsis* (1630) but this time he includes the Lippian definition of two classifications of modes based on the concept of a major-minor duality. Major (natural) modes are Ionian, Lydian, and Mixolydian; and minor (Molliores) modes are Dorian, Phrygian and Aeolian.<sup>133</sup> This treatise is very progressive in its promulgation of the major-minor triadic theory. Crüger says that by means of *musica ficta* any Triad can be altered in the mode to make a major or minor triad. Crüger gives the example of the major and minor triads from C to B. Example 54 is taken from this 1630 treatise.

Example 54. Crüger, *Synopsis*, (1630), Ch. XI

#In these cases the triads must be major or minor. accidentals should be added as shown below the chord.

<sup>133</sup>"Naturaliores sunt Ionicus, Lydius, Mixolydius.. Molliores sunt Dorius, Phrygius, Aeolius," Crüger, *Synopsis*, (1630), *op. cit.*, Chapter XI.

In each example the triad is shown to be altered by musica ficta.<sup>134</sup> The altering of the triad does not change the mode but does give a broader basis of chord structure to work from when composing. Major and minor triads were thus available for use in any mode. The composer could determine whether the piece was to have a predominance of major or minor triads depending on the affect intended.

The concept of major and minor triadic categorization of modes remained in Crüger's theory books after the *Synopsis* (1630) but the ordering was changed. In the *Questiones* (1650) Crüger returned to the placing of the Dorian as the first mode. He says:

The most convenient and natural mode ordering happens if Ionian with its Hypoionian holds first position; however, not to confuse students, we will retain the ordinary (traditional) ordering of Dorian and Hypodorian in first position.<sup>135</sup>

<sup>134</sup>The example given probably has a misprint for the realization over the B. The example Crüger gave is as follows:

Species resistatae Triadis harmonicae tam naturalioris, quam mollioris, Nativae & per chromata fictiles.

The image shows two staves of musical notation. The top staff contains a sequence of chords with various accidentals and a handwritten asterisk above the final chord. The bottom staff is labeled "1. error" and shows a sequence of chords with a handwritten asterisk above the first chord.

<sup>135</sup>"Licet convenientissimus & omnium naturalissimus sit Modorum ordo, si primum locum obtineat Ionicus cum suo Hypoionico: Attamen, ne confundantur ingenia discentium, veterum illum, quo primo loco collocant Dorianum cum Hypodorianum suo retinere voluimus ordinem." Crüger, *Questiones*, (1650), *op. cit.*, fol. C5.

In the treatises written in 1650 and 1654 Cruger returned to the Glareanian ordering that went as follows:

Mode 1, Dorian; Mode 2, Phrygian; Mode 3, Lydian; Mode 4, Mixolydian; Mode 5, Aeolian; and Mode 6, Ionian.

He also explained in the *Synopsis* (1654) how to use the spurious modes with finals on B (Hyperaeolian and Hyperphrygian) by chromatically altering the triad in the mode to fit a major-minor structure. If the top note of the triad over B natural were altered thus:

Trias Anharmonica	Trias Harmonica

the triad would become correct and the mode usable. The same would apply to the false triad based on E cantus mollis:

Trias Anharmonica	Trias Harmonica

With this chromatic alteration all anharmonicity is removed and the spurious thirteenth and fourteenth triads have the harmonic triads b d f# and

eb g bb in *cantus durus* and *mollis*.<sup>136</sup>

Although Crüger justifies the use of these two spurious modes, he does not list them in his mode ordering. Perhaps this statement was included to show that with *musica ficta* even spurious modes would fit into the two mode (major-minor) classification system.

In conclusion, Crüger's idea of major-minor classifications of the modes based on the *dur* or *moll* triad in the two species of the mode comes from Lippius. Crüger uses the mode ordering set by Zarlino and copied by Lippius in his earlier treatises, but later he reverts to Glarean's mode ordering. In each treatise Crüger discusses harmony as it is based on the *Trias Harmonica* that is found in each of the modes whether they are primary, secondary or spurious. The major-minor relationships are not thought of in tonal terms, but rather, they are sets of intervallic proportions (triads) that are common to all of the modes. Crüger leaves out the mathematical proportions of these triads and concentrates on the explanation of the character of the Hexachord (major or minor) that is found in the octave species. This character is determined by the *Trias Harmonica*.

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<sup>136</sup>"Rejiciuntur hi duo Modi a plerisque Musicis, & Spuri propter Triadem anarmonicam vocantur. Verum non omnino istos esse abolendos & rejiciendos mecum saniores. Musici statuent, propterea, quod Triades istae anarmonicae beneficio Semitonii in harmonicas apte verti queant, mutata nimirum, in cantu duro, suprema Triadis clave F addito Semitonia minore in Fis (ut a Musicis Instrumentalibus appellatur). Hunc enim in modum ex quinta ista falsa vera ejusdem dispositio pronascetur . . . Sic in cantu molli versa infima Triadis anarmonicae clave E in Dis, Quinta ista diminuta & falsa in veram mutatur & ita omnis anarmonica tollitur ut: Sunt igitur decimus tertius, & decimus quartus Modus Triadis harmonicae H D Fis in Canto duro-Dis G B in Cantu Molli." Crüger, *Synopsis*, (1654), *op. cit.*, p. 123.

## CHAPTER 8

## HARMONY IN A TEXT/MUSIC RELATIONSHIP

*Harmony, Rhetoric, Elocution, and Ornamentation*

"Crüger stated, "the text gives the soul to the harmony of the song."<sup>137</sup> This touches on an important seventeenth century musical concept, namely, that there is an integral relationship between the text and the music in any composition. Not only must the text fit the music, but also the words, music, rhythm and meaning must constitute a harmonious unit united together under the heading of *Affect*.

Since the Monteverdi/Artusi conflict in the early seventeenth century, musical Europe had been trying to come to terms with the concept of Music/Text relationships. Giulio Cesare Monteverdi wrote a defence of Claudio Monteverdi's ideas on the subject. In the preface to the *Fifth Book of Madrigals* (1607) he said that rhythm and harmony must follow the words. "The song is composed of three things: the words, the harmony, and the rhythm . . . and so of the apt and the unapt, [if] the rhythm and the harmony follow the words,

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<sup>137</sup>"Cum de harmoniâ hactenus egerimus, jam ad orationem sive textum, qui cantioni harmonicae quasi animam dat, accedamus." Crüger, *Synopsis*, (1630), p. 181.

and not the words these."<sup>138</sup>

The *secunda prattica* followers stressed this integral relationship between the text and the music. The practice had its roots in Italy but the ideas soon spread to other nations, including Germany. The *prima prattica* was still being followed in Crüger's area but progressive composers were starting to include modern Italianate techniques. The *prima prattica* made words the mistress of harmony, according to Monteverdi, whereas, the *secunda prattica* made music the mistress of the words.<sup>139</sup> This second practice was adopted from an interpretation of early Greek philosophy of music. Plato said the following in his *Republic* (427-347 B.C.): "Have sufficient understanding of this- that the melody is composed of these things, the words, the harmony and the rhythm . . . and again, the harmony and the rhythm must follow the words and not the words these."<sup>140</sup> This quotation bears a marked resemblance to the statement by Monteverdi

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<sup>138</sup>Quotation taken from "The Baroque Era," *Source Readings in Music History*, Oliver Strunk, (W.W. Norton, N.Y., 1965), p. 47.

<sup>139</sup>"By the First Practice he (Monteverdi) understands the one that turns on the perfection of the harmony; that is, the one that considers the harmony not commanded, but commanding; not the servant, but the mistress of the words, and this was founded by those first men who composed in our notation music for more than one voice and . . . perfected by Zarlino . . . By second practice . . . he understands the one that turns on the perfection of the melody; that is, the one that considers harmony not commanding, but commanded, and makes the words the mistress of the harmony." Trans. by Strunk from *The Baroque Era*, *op. cit.*, pp. 48-49, from the *Fifth Book of Madrigals* by Monteverdi.

<sup>140</sup>*Ibid.*, p. 47.

quoted on the previous page. Crüger's works reflect both Monteverdi's ideas and the early Greek ideals.

Crüger does not quote Monteverdi or Plato but he does discuss the relationship of text to harmony, and he acknowledges Monteverdi in his *Synopsis* (1654).<sup>141</sup> While Crüger does not say that the text is the mistress of the harmony, he does say that the text and music are bound together.<sup>142</sup> The text gives the soul to the music. "Bare harmony is the skeleton, but if you want reasoning and human feeling, you must have the text to make it (harmony) more wonderful and complete."<sup>143</sup> The harmony gives the form and the words give the context.<sup>144</sup> He further defines this harmony (*Res*) as that which "organizes words (*Verba*) and it (*Harmony*) consists of intervals joined together."<sup>145</sup> Crüger defined *Harmony* itself as "the material that is

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<sup>141</sup> "Crüger, *Synopsis* (1654), Chapter XVII, p. 184.

<sup>142</sup> See footnote 137.

<sup>143</sup> "Harmonia enim nuda, ut videre est in Instrumentis Musicis, scienter ac perite ab artificibus tractatis, propter numerorum ac proportio, num rationem, quibus se humanis mentibus insinuat, plurimam quidem in affectibus excitandis exercet potentiam: Verum si vox humana accesserit, quae sententiam aliquam insignem numeris harmonicis expressam sirvul accinat, concentus propter duplicem, quam & harmonia & sententia aliqua praeclara gignit delectationem, multo erit mirabilior, augustior, auribusq; pariter atque animo acceptabilior." Crüger, *Synopsis* (1630), pp. 181-182.

<sup>144</sup> "Res possunt esse omnes divinae ac humanae, quarum naturam, vim & conditionem prudens artifex primum diligenter perpendat, examinet, quibusque sonis & intervallis harmoniam convenientem formare, & exprimere possit, omni studio inquirat." Crüger, *Synopsis* (1630), p. 182.

<sup>145</sup> *Ibid.*, p. 182.

made up of sound and sounds consist of musical intervals."<sup>146</sup> The most perfect form of music would use the *trias harmonica* in close connection with the words. Neither the text nor the music is more important than the other; rather, "the interweaving of the music and speech gives life, so to speak, to the harmonic singing."<sup>147</sup> This statement implies that the form of the piece is determined by the text/music relationship. The roots of this statement are Lippian in origin. Lippius said: "The form of a harmonic cantilena consists in the artful and prudent arrangement of its material elements or parts, namely monads, dyads, and triads, which are combined or composed according to the sense of the text."<sup>148</sup> The form of the piece therefore consists of a combination of words and music or Harmony and Rhetoric.

Quintilian (c. A.D. 30) defined rhetoric as the art of persuasive speech.<sup>149</sup> Harmony is commonly defined as a combination of sounds or

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<sup>146</sup>"Materia ex qua Harmonia generatur est Sonus. Sonus enim principium est omnium Intervallorum Musicorum & totius harmonia." Crüger, *Synopsis* (1630), Chapter I. For further information refer to Chapter I of this thesis.

<sup>147</sup>"Textus igitur Musicus sive Oratio dat animam quasi cantioni harmonicae." Crüger, *Synopsis*, (1630), Chapter IX.

<sup>148</sup>"Forma Cantilenae Harmonicae in Materiae ejus seu partium, Monadum, Dyadum, Triadumque juxta textum connexarum sive Compositarum dispositione artificioso atque Prudente consistit." Lippius, *Synopsis*, (1612) translation taken from B. Rivera, *Johannes Lippius, op. cit.*, p. 247.

<sup>149</sup>"(Rhetorica) est bene dicendi scientia . . . Cicero pluribus locis scripsit, officium oratoris esse dicere apposite ad persuadendum." Quintilian, *Institutio oratoria*, II, XIV, 5; XV, 5, translation by B. Rivera, *Johannes Lippius, op. cit.*, p. 248.

intervals. In order for a fusion between these two to occur, there must be a common structural form. The early seventeenth century theorists took Greek divisions of Rhetoric and superimposed them on musical (harmonic) structures in order to make this fusion easier. The rhetorical terms were used in defining musical structures. Quintilian said that the five steps to be mastered in effective speaking were: (1) *inventio*, (2) *dispositio*, (3) *elocutio*, (4) *memoria*, and (5) *pronunciatio*.<sup>150</sup>

*Inventio*, or the art of finding, was labelled *Res*. *Res* referred to all the various ideas related to the topic, or in other words the material from which the speech or music was made. Closely associated with *Res* was *Verba*, or the words used to discuss the topic. The issue in *Inventio* was to find the words (*verba*) to match the established topic (*res*).<sup>151</sup> Cruger uses the terms *Res* and *Verba* in connection with the discussion of text/music relationship.

After finding the topic, the author must arrange his ideas, this being called the *Dispositio*. Good arrangements call for tasteful positioning of the *Res* and *Verba*. Closely linked to the arrangement (*dispositio*) is the *Elocutio* or speech or expression. In Latin this would mean the careful choice of words to best express the subject matter. Cruger does not use the terms *dispositio* or *elocutio*, but he discusses the issues they represent in relation to harmony. He

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<sup>150</sup> Quintilian, *Institutio*, III, iii, 1. Translation taken from Rivera, *op. cit.*, p. 248.

<sup>151</sup> "Continent autem Textus duo: RES & VERBA." Cruger, *Synopsis*, (1630), p. 182.

says, the harmony organizes the thing (*Res*),<sup>152</sup> thereby becoming the equivalent of the *Dispositio*. Quintilian talks of *elocutio*, an important area when dealing with musical interpretation. *Elocutio*, or the careful choice of words to express the subject matter (*Res*) touched on the area termed in music as *Affect*. The musical equivalent of elocution would be the correct choice of harmony, melody and rhythm to express the musical subject matter. In rhetoric there are three qualities important for good elocution: correctness (*latinitas*, *puritas*), clarity (*luciditas*, *perspicuitas*) and elegance (*ornatio*).<sup>153</sup> The important thing of all these three qualities is that the style of the oration or presentation must fit the subject matter.<sup>154</sup> Associated with the correctness (*latinitas*, *puritas*)<sup>155</sup> were a whole set of rhetorical figures and tropes. In music the parallel to the *latinitas*, *puritas* would be the use of certain modes to signify specific affects.

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<sup>152</sup>"Res possunt esse omnes divinae & humanae quarum naturum, vim conditionem prudens artifex primum diligenter perpendat examinet. quibusq; sonis & Intervallis Harmoniam convenientem formare & exprimere possit, omni studio inquirat." Crüger, *Synopsis*, (1630), chapter IX.

<sup>153</sup>"In singulis intuendum est ut (verba) sint Latina, perspicua, ornata, ad id, quod efficere volumus accommodata . . ." Quintilian, *Institutio*, VIII, i, 1--Translation from Rivera, *op. cit.*, p. 252.

<sup>154</sup>Quintilian, *Institutio*, Preface, VIII, pp. 18-33.

<sup>155</sup>An example of a rhetorical figure would be a metaphor. For a discussion of further examples of these figures in relation to music two sources shall be considered. The "Form of Music," chapter seven in Rivera's book *Johannes Lippius op. cit.*, and the book, *Die Beziehungen Zwischen Musik und Rhetorik im 16-18. Jahrhundert*, (Würzburg, 1941: fasc. ed. Hildesheim, 1969), by H.H. Unger.

If a certain mode were used, the listener would immediately transfer the associated emotions to the respective composition. The specific mode became metaphorically associated with different affects or moods. General categories were usually mentioned in mode-affect relationships. This topic had been introduced by the ancient Greeks, and was re-emphasized during the seventeenth and eighteenth century, although in a different way. Plato had said in the *Republic* that the Mixolydian and intense Lydian were dirge-like and the Lydian was convivial and too relaxed. The Phrygian and Dorian suited bravery and warfare.<sup>156</sup> Quintilian summed up the ancients' views on mode/affect relationships in this way: "For it was in this way that the ancients sought to explain their harmonies, matching the qualities of the sounds to the given material of the moral character."<sup>157</sup>

Early seventeenth-century composers tended to classify the modes into two general categories, those that were cheerful, and those that were lugubrious. The first included scales with a major *trias harmonica* (Ionian, Hypoionian, Lydian, Hypolydian, Mixolydian and Hypomixolydian). The second included the scales with the minor *trias harmonica* (Dorian, Hypodorian, Phrygian, Hypophrygian, Aeolian, Hypoaeolian).<sup>158</sup> Lippius summarized the tradition of mode/affect relationship by giving three

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<sup>156</sup> Strunk, O., ed., "Music in Antiquity," *Source Readings in Music History*, see footnote No. 3, p. 5 of Strunk.

<sup>157</sup> *Ibid.*, p. 5.

<sup>158</sup> Rivera, *op. cit.*, p. 307.

characteristics in the classification. According to him the affect of a mode depended upon (1) the nature of the characteristic triad (*trias harmonica*), (2) its characteristic intervals, and (3) the arrangements of tones and semitones within the scale.<sup>159</sup> Lippius therefore categorizes the affect in relation to the harmonic structure of the mode. A compositional outcome of this would be that the sad texts should use sad modes, the happy texts happy modes. Crüger speaks of this dual way of looking at the modes: "Certain modes are traditionally chosen for texts, just as there is no doubt that poetry and singing together express a certain theme (*materia*) for example Horatio says: Prose related to sad or happy subjects cannot appear except as in harmonious agreement with the music, and not at all where (one) pleases but (rather) where the mode meets the demand of the affect (of the text)."<sup>160</sup>

The fact that Crüger classified the modes according to major and minor classes leads to the assumption that he sees mode/affect relation-

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<sup>159</sup>"Quilibet Modus Effectu & Affectu sequitur suae Radicis Harmonicae Utrisonae & Intervallorum, Tonorum, atque Semitoniorum in eadem & Octavae ambitu cyclico ordine Crassitudinis dispositorum in Scala comprimis Syntona, quibus a se invicem differunt Modi." Lippius, *Synopsis*, I, 3r-3v. Translated by B. Rivera, *op. cit.*, p. 299.

<sup>160</sup>"Certum sibi eligat Modum cum textu, si quem exorandum sibi sumpserit, convenientem. Quemadmodum enim Poeta nequaquam quolibet genere Carminis quamlibet materiam exprimere possunt, ut Horatius inquit: Versibus exponi Tragicus res comical non vult. Ita Musicus, nisi exercitatus sit in flectendis consonantibus nequaquam in quolibet Modo partifacilitate, quosdam quos Sententia requirit, affectus producere poterit." Crüger, *Synopsis*, (1630), chapter XII.

ships in much the same way that Lippius did. He speaks of the use of modes because of their specific affect. The hypoionian, mixolydian and aeolian for example, are to be used on account of the sad, weary and slow sound they have.<sup>161</sup> "Cruger concluded that not only must the style of the oration (text) fit the subject matter, but the harmony must also fit both the text and the subject matter. This matter (*Res*) is divided into two areas, sad and happy. The musical realization of these subjects is called Affect. "Cruger also says that things that are serious and difficult are expressed with long and deep sounds, and light things with short and sharp sounds."<sup>162</sup> The harmony, he says, organizes the subject but it can be seen that the harmony was thought of in direct relationship to the affect of the text. The choice of modes was restricted to happy or sad (major or minor) and the length or duration of sounds should be in agreement with the affect of the text. In this way there was a harmony not only of a chord *concentus*, but also a harmony of affect between the word and music. In the chapter on the *Musical Dyad* in this paper, the relationship between intervals and to affect was also discussed. As these intervals are part of the major or minor groups of scales, they will not be

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<sup>161</sup> "Harmoniam propter sonos graviorez languidiorem et pigriorem." Cruger, *Synopsis*, (1630), chapter XXX.

<sup>162</sup> "Nam Res gravis & difficilis longis ac profundis sonis exprimitur levis contra brevibus & acutis. Tristis res, Timor, Planctus, suspiria, Materia funebris Ec., tardis & Languidis." Cruger, *Synopsis*, (1630), p. 182.

discussed further at this time.

The *Elocutio* of expression would be found in the careful choice of words to express the text, and a careful choice of the mode and the note lengths. Cruger said that the most powerful words are the ones where they sound similar to the natural things that they refer to.

Harmony comes from the rhythm of the sounds and pauses just like the text. The music has modulations, just as the text has commas, colons and periods.<sup>163</sup> The accenting of the speech syllables should be related to the music, namely, that the music should follow the natural flow of the speech.<sup>164</sup> This last statement reflects the ideas of the Italian monodists. Major and minor distinctions are also used in *elocutio* relationships. The changes from one form to the other

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<sup>163</sup>"Verba possunt esse quaelibet Potissimum autem eligenda sunt rebus similia, aequata & congruentia, eorumque naturam & vim apprime referentia, sive absque sive cum metro certo Poetico, in quibus duo potissimum spectranda. Distinctio & Syllabarum Accentus. Verba distinguetur Commatis, Colis, & Periodis: Harmonia vero clausulis formalibus & Pausis . . . sed eo usque modulationis progressus est continuandus, donec textus legitime distinguitur vel Periodis, vel Colis, vel Commatis." Cruger, *Synopsis*, (1630), p. 183.

<sup>164</sup>"Porro in applicatione textus ad Notulas observandi sunt ACCENTUS Syllabarum & proprietates, ne brevis aliqua syllaba, & gravi accentu proferenda, modulationis ascensu, aut Figura majori attolatur: Vel contra longa Syllaba, quae acuto, aut circumflexo accentu producenda, modulationis descensu, aut Figura minore deprimatur, & corripitur, pari enim ratione peccat tam qui breves syllabas producit, tam qui longas corripit. Sic quando tractibus (ut vocant Musici) ad aliquot Notulas uncatantum Syllaba applicanda, obietvetur, quod nulla syllaba, quae gravi accentu deprimatur, ad tractum sit apta." Cruger, *Synopsis*, (1630), p. 184.

in chords would help stress the changes in syllables.<sup>165</sup> Quintilian had said that there were three qualities needed for good *Elocutio*. These three were: correctness (*Latinitas, puritas*), clarity (*Luciditas, perspicuitas*) and elegance (*Ornatio*).<sup>166</sup> The correct use of the mode in relation to the affect could be classed as *Latinitas, puritas* or correctness. The clarity of a text or *Luciditas, perspicuitas* could be accomplished by underlining the syllabic stress with chord modulations. *Ornatio* or elegance was accomplished by decorating the language and music with the use of embellishments to heighten the climaxes of certain words or passages or music. Lippius believed that the three qualities of good *Elocutio* were the basis for effective musical setting for the words, but they were also something more, in that they could also be the basis for the formal structure of the musical composition as a whole.<sup>167</sup> These ornaments or embellishments, therefore, were not frills

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<sup>165</sup>"Cruger was influenced by the German poet Optiz (1597-1639) who said that the words and syllables should not be forced into a meter. No violence, he said, should be done to the logical word order to fit the metrical line. Clarity was of utmost importance. Optiz was sensitive to the flow of the specific syllables or sounds of words. Certain sounds he felt, should be used in moderation so as not to produce a harsh affect. Optiz also required that the poet employ words and speech that were appropriate to the character of the text. If the text was elevated, so also must the language be elevated. Optiz demanded that *word accent* and *verse accent* (climax of the text) should always coincide. Cruger adopted these ideas and concluded that the musical accent should also fit the word accent and text climax. These ideas by Optiz are taken from the book by B. Ulmer, *Martin Optiz* (New York: Twayne Pub. Inc., 1971), pp. 52-53.

<sup>166</sup>"In singulis intuendum est ut (verba) sint Latina, perspicua, ornata, ad in quod efficere volumus accommodata . . ." Quintilian, *Institutio*, VIII, i, 1.

<sup>167</sup>G. Buelow, "Rhetoric & Music," article in *The New Grove*, vol. 15, p. 793.

thrown into the music to show off the vocal agility or instrumental dexterity; rather, they were an integral part of the construction of the piece.

The embellishments grew out of the text, and could be demonstrated in three ways musically: by pitch, by volume and by duration. According to Lippius, the ornaments of duration referred to: (1) a variety of triple and duple meter tactus; (2) a variety of note values, syncopations and a slower moving bass rhythm in relation to florid upper voices; and (3) primary, secondary and tertiary cadences (based respectively on the *prima*, *summa* and *media* notes of the *trias harmonica*) corresponding to the commas, colons and periods in the text.<sup>168</sup> The ornaments dealing with volume consist of the variety of sounds made by the use of rough or smooth textures using many or few instruments (musical instrumentation). The ornaments of pitch consisted of the quick passing of notes or suspensions to provide a variety that would ward off boredom. These ornaments of pitch could be used to conceal dissonances when the text so demands. The use of the fugal style is one example of pitch ornamentation.<sup>169</sup>

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<sup>168</sup>B. Rivera, *J. Lippius, op. cit.*, p. 286.

<sup>169</sup>"Exercitium autem Fugae ordiendum est in unica duntaxat Triade Harmonica: ut reliquae deinceps Formae atque species Fugarum tanto facilius apprehendantur juxta Exempla eorundem illorum Heroum Musicorum Practicorum Orlandi nempe & Marentii . . ." Lippius, *Synopsis*, H., 3v-6r. as quoted by B. Rivera, *J. Lippius op. cit.*, p. 288.

Crüger adopts Lippius' ideas but he simplifies them. He says that ornaments in music are put together to make the musical harmony sound right.<sup>170</sup> The ornaments help the harmony relate better to the text. There are three places where ornaments are to be used. The first use of ornaments is to solve a problem of dissonances.<sup>171</sup> The second use is for "emphasis at cadential points, with harmonic reasons."<sup>172</sup> And the third use of ornaments is "in fugues happily introduced and then worked out."<sup>173</sup>

Crüger's ideas on ornamentation are virtually copied from other musical sources. His theoretical ideas came from Lippius, but most of his examples are taken from J.A. Herbst's books, *Artè Practica et Poetica* (Frankfurt: Main, 1653), and *Musica practica . . .* (Nürnberg, 1642, and enlarged ed. titled *Musica moderna practica . . .*, Frankfurt, 1658). Both Herbst and Crüger copied from Michael Praetorius' *Syntagma musicum . . .* volume 3 (Wolfenbüttel, 1619). Crüger's *Synopsis* (1654) and *Musica Practicae . . .* (1660) deal with the issue

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170 "Flores atq. Figurae sue Ornamenta Musica cantilenam harmonicam componendi quibus prudens artifex ad suum feliciter obtinendum finem utitur consistunt." Crüger, *Synopsis*, (1630), Chapter XIII.

171 "In Dissonantiis aptè & congruè absq̄ offensione aurium harmonia immiscendis." Crüger, *Synopsis* (1630) *ibid.*

172 "In Clausulis Formalibus, ratione harmonia & extus benè usurpandis." Crüger, *Synopsis*, (1630), *ibid.*

173 "In Fugis feliciter effingendis & elaborandis." Crüger, *Synopsis*, (1630), *ibid.*

of diminutions and ornamentation at great length. He discusses the ornaments themselves and the correct manner of production. There are copious examples to illustrate various forms of the ornaments.

Crüger specifically states that it is not enough to sing the correct notes of a piece; rather, the student must also be able to ornament in a pleasing manner. He must be able to understand the correct method of using accents over the notes, and in which situations to use *Passagien* or *Diminutions*.<sup>174</sup> He cautions that the singer must not add too many ornaments or the music will be spoiled and darkened so that a person could not understand the text or hear the original notes of the composition.<sup>175</sup> These statements emphasize that ornamentation is important in performance practice, but at no time must the singer's art cloud the original harmony or text.

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<sup>174</sup> "Wann nun ein Knabe vorhergehender Instruction nach durch stete und fleiszige Übungen so weit ist kommen dasz er ein stücke zimlich fertig kan singen ist es damit nicht genug: Sondern weil finis Musicae auch suavitas ist musz er auch angeführet werden wie er sich zu einer zierlichen und lieblichen Manier sol gewöhnen dasz er fürnehmlich wisse die Accentus über die Noten cum judicio zu führen wie auch andere Passaggien oder Diminutiones, nicht zwar an jedem Ort des Gesanges sondern apposite zu rechter Zeit und mit gewisser Masz anzubringen und zu appliciren." Crüger, *Musicae Practicae*, (1660), p. 19.

<sup>175</sup> "Gott und der Natur mit einer sonderbaren lieblichen schwebenden oder bebenden Stimm auch einem runden Hals und Gurgel zum diminuiren begabet sehn sich aber an der Musicorum leges nicht binden lassen sondern nur fort und fort mit ihrem allzuviel colorieren die im Gesang fürgeschriebene limites überschreiten und denselben dermassen damit auch weder den Text noch die Noten so der componist gesetzt vernehmen vielweniger verstehen kan welches die Auditores fürnehmlich die der Kunst in etwas Wissenschaftt haben wenig officiret und erlustiget ja vielmehr ihnen zu zuhören verdrossen machet." Crüger, *Musicae Practicae* (1660), p. 19.

In *Musica Practicae* (1660) Cruger discusses the art of singing ornaments correctly. There are three basic things that belong to the style of singing in a pleasing ornamented manner. He calls these: *Natura*, *Ars* and *Exercitatio* and then proceeds to explain what these terms mean in a musical sense.

Three things belong to the style of singing in a pleasing and ornamented manner. These are called: *Natura*, *Ars* and *Exercitatio*.

The *Requisita naturae* are these: 1. A singer who wishes to sing a concert in the correct musical manner (and who is) . . . blessed by God and nature with a clear, vibrating voice and also a smooth and round sound will perform the *Diminutiones Notularum* with modest moderation.

2. He must also sing with joy and without ill humour. If one forces or provokes a boy with violence or beating, seldom or with difficulty will anything useful be accomplished.

3. He must choose a precise and naturally best-suited voice from (amongst) soprano, alto, tenor, etc. which he can project with a full and clear intensity (loudness) without falsetto i.e. (without) a weak and forced voice.

4. He must be able to hold a steady long breath without many breaks.

5. *Articulata Pronunciato*, a clear and audible means of expression also belongs here, so that each word, . . . that he sings can actually be understood by the listeners as if he was speaking it.<sup>176</sup>

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<sup>176</sup> "Zu einer lieblichen und zierlichen Art aber zu singen gehören Dreyerley nemlich: *Natura*, *Ars* & *Exercitatio*. *Requisita naturae* sind diese: Es musz 1. Ein Sänger der nach rechter musicalischer Manier ein Concert cum gratia auditorum wil singen von Gott und der Natur begabet sehn mit einer reinen bebenden Stimm auch einen glatten and runden Halsz die *Diminutiones Notularum* mit bescheidentlicher Moderation anzubringen. 2. Musz er auch mit Lust und ohne Verdrusz singen. Denn

These five aspects of performance belong to the area of *Natura* or correct style; however, the performer must also know how to perform the Passaggien and Diminutiones in a correct manner to satisfy a correct sense of *Ars*.

Crüger defines *Diminutio* as "a larger note broken into many smaller and faster notes. These are called Accento, Tremolo, Groppo, Tirata, Trillo and Passagio."<sup>177</sup> He says that the Accentus and the Passaggien are the more important initially for beginning singers and the other graces are to be used in concerts.<sup>178</sup> The section on

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wann man einen Knaben mit Gewalt oder Schlägen darzu foltreiben oder anreitzen wird schwerlich oder selten was nützlich ausgericht werden. 3. Musz er eine gewisse und feiner Nature bequeme Stim als: Cantum, Altum, Tenorem &c. ihm erwehlen welche er mit vollem und hellen laut ohne falsetten, das ist halber und erzwungener Stimm halten könne. 4. Musz er einen steten langen Athem ohne viel respiriren halten können. 5. Gehöret auch darzu *Articulata Pronunciato* eine deutliche und vernehmliche Aufrede also dasz ein jeder Wort oder Sententia so er singet von den *Auditoribus* eigentlich könne verstanden werden gleich als wen es redete." Crüger, *Musicae Practicae*, (1660), p. 20.

<sup>177</sup> *Diminutio* aber ist, wann eine grössere Nota in viel kleinere und geschwinde Noten resolviret und gebrochen wird. Dieser sind nun unterschiedliche Arten bey den Italianischen Musicis zu finden. Als; *Accento, Tremolo, Groppo, Tirata, Trillo, Passagio, ibid.*

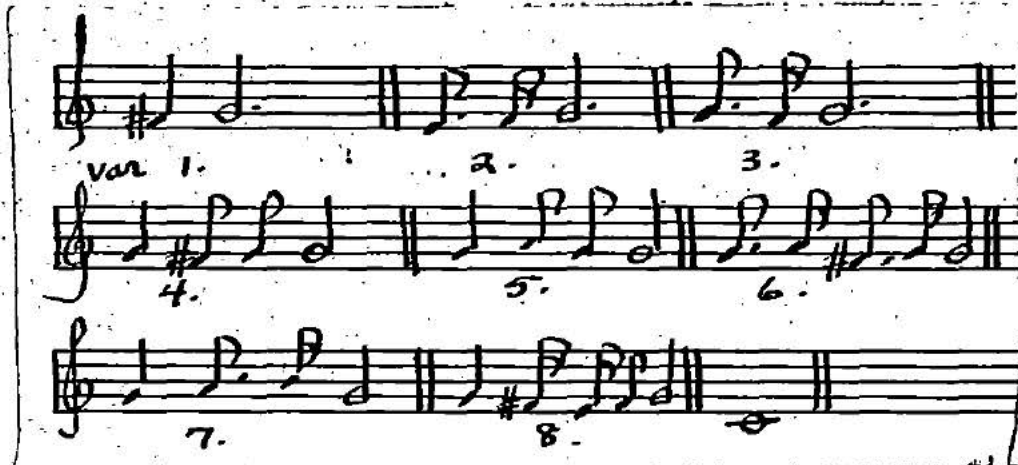
<sup>178</sup> "Ob nun zwar Knaben in Schulen insonderheit die keine Profession von der Music zu machen in willens nicht so grosz nothig ist diese modulos Musicos Italicae suavitatis zu excoliren weil diese Manier zu singen vielmehr in Königliche und Fürstliche wolbestalte Cappellen gehöret: Für Schulknaben es aber genug ist dasz sie sich befleiszigen die Accentus über die Noten zu machen und selbige nach Gelegenheit mit anzubringen wie auch etliche der leichtesten Passaggien . . ." Crüger, *Musicae Practicae*, (1660), p. 21.

ornaments is musically well illustrated in both the *Synopsis Musica* (1654) and the *Musicae Practicae* (1660). There are slight changes in the latter treatise from the earlier work of 1654, but, largely, the *Musicae Practicae* (1660) has incorporated the ideas and examples of the *Synopsis Musica* (1654). *Exercitatio* refers to the practicing of these ornaments, and Crüger ends the sections on ornamentation by giving examples of how diminutions can be performed in various ways. Crüger borrowed most of his examples from Herbst who in turn copied from Michael Praetorius's *Syntagma Musicum* (1619). Praetorius cited Caccini and Bovicelli as his chief mentors. In the following pages, examples of Crüger's work are compared to examples from Herbst and Praetorius. It must be remembered that in order to conceive of the sound of the music, the ornamentation must also be included. Harmony, therefore, included the composition of text/music and the performance with the inclusion of stylistic intervals.

The first ornament that Crüger describes is the *accent*, a form of anticipation (*Nachschlag*) or apoggiatura (*Vorschlag*) that could rise or fall, on or off the beat. The examples were taken from Herbst with only a very slight variation in wording in the explanations and music. The accents were usually one-note graces with varying rhythmic accents and lengths. Example 55 shows some basic variations of the accents.

Crüger leaves out the on-beat examples and examples for the interval of a second. Variation 1. Example 55 shows an off-beat one-note *Vorschlag*; example 2. shows a pre-beat two-note *Vorschlag*. A

Example 55. Crüger, *Musicae Practicae* (1660), p. 21



similar example was shown by Herbst (1642). However, both Praetorius (1619) and Herbst (1642, 1658) used the on-beat *Vorschlag*. Example 56a, taken from Neumann's book *Ornamentation in Baroque and Post-Baroque Music* shows this on-beat *Vorschlag*.<sup>179</sup> Neumann also mentions that the figures shown in Example 57 are related to the French *accent* and that 57b is related to the *Nachschlage* of the type *anticipazione della nota* (those which anticipate the next pitch). Example 57 is taken from the *Synopsis Musicae* (1654) treatise. Example 58 taken from the 1660 treatise also shows the *Nachschlage* of the *anticipazione della nota* type. Example 59 from the 1660 treatise is a delayed *Vorschlag* and the

<sup>179</sup> Neumann, F., *Ornamentation in Baroque and Post-Baroque Music*, (New Jersey: Princeton University Press, 1978), p. 104.

displaced beat as a result of the initial rest causes a neutralized effect of the dissonance in the harmony. The dissonances would be stronger or weaker according to the words of the text. These one-note *accenti* could help to stress the strong beats of the word accents. The type of accents used would depend on the flow of the melody, the harmony and the affect of the text.

Example 56. Praetorius (1619): Herbst (1642-1658)

Example 57. Cruger, *Synopsis Musica* (1654), p. 202



Example 60. Crüger, *Musicae Practicae* (1660), p. 24

Ascending Thirds

Var. 1. 2. 3. 4.

5.

Ascending Fourths.

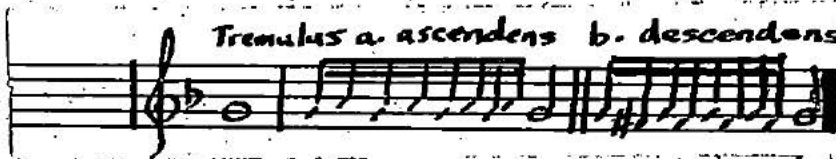
Descending Fourths.

Ascending Fifths.

Descending Fifths.

The next ornament that Crüger describes is the *Tremolo* or *Tremulus*. He defines it as "the shaking of the voice between two adjacent notes. In instrumental music it is called a mordant. It is aimed more often towards the organ and instruments than in the voice."<sup>180</sup> The copy is exactly the same as the one described by Herbst. Although Praetorius used both the *Tremulus ascendens* (upper note trill) and *Tremulus descendens* (lower note trill) as shown in Example 61, Crüger says that "The *tremolo descendens* is not as good as the *ascendens*."<sup>181</sup>

Example 61. Praetorius (1619)



Example 62 shows Crüger's interpretation of the *Tremulus ascendens*. The alternations can be single or multiple. The one example that Crüger gives of the *Tremolo descendens* uses a semi-tone for the lower part of the ornament.

Example 62. Crüger, *Musicae Practicae* (1660), p. 25



<sup>180</sup>"Tremolo ist das Zittern der Stimm über einer Nota in zweyen nechsten Clavibus. Die Instrumentales Musici nennen es Mordanten. Ist mehr auf Orgeln un Instrumenta pennata, als auf Menschen=Stimmen gerichtet. Crüger, *Practicae Musicae*, (1660), p. 25.

<sup>181</sup>"Der Tremolo descendens ist nicht so gut as der ascendens." Crüger, *Practicae Musicae*, (1660), p. 25.

Example 63 shows realizations of *Tremoletti* (another name for *Tremulus*).

Example 63. Crüger, *Musicae Practicae* (1660), p. 25.



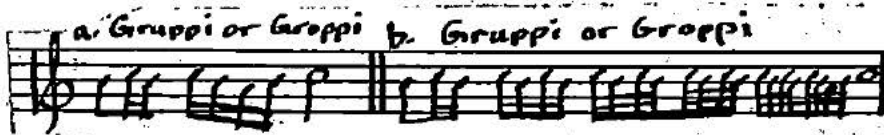
The *Groppa* (a ball or a roll), Crüger says, "is a quick wavering in the voice. They are used in cadences and formal closes or final cadences in connection with a preceding Tremolo or Accents. It must be

played faster than the tremolo."<sup>182</sup> Crüger's example, shown in Example 64 comes straight from Praetorius's work shown in Example 65.

Example 64. Crüger, *Musicae Practicae*, (1660), p. 26



Example 65. Praetorius, *Syntagma Musicum III*, 235.



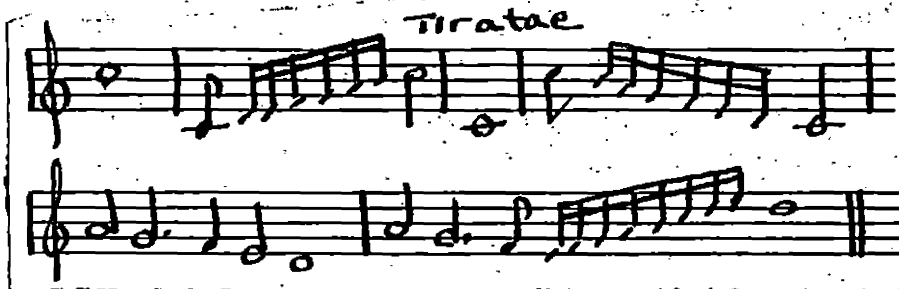
A *Tirata*, Crüger says, is (a shot or an arrow) long fast little runs that are made over the notes and go up and down the staves.

The faster and sharper (smaller) these runs are, so that men can clearly

<sup>182</sup>"Groppo (heist eine Kugel oder Waltze) ist ein geschwindes nieder und auffwancken der Stimme. Werden in den *cadentiis* und *clausulis formalibus*, oder *Final clausulen* gebraucht mit einem vorhergehenden *Tremolo* oder *Accentu*." Müssen aber schärffer als die *Tremoli* angeschlagen werden. Crüger, *Musicae Practicae*, (1660), p. 26.

hear each note, the better and more pleasant will they be.<sup>183</sup> The example is straightforward and is copied from Herbst. See Example 66.

Example 66. "Crüger, *Musicae Practicae*, (1660), p. 26



There are two types of *Trillo* (a pretty sighing), says Crüger; "the one is a story in unison on one note while many fast notes are repeated after one another."<sup>184</sup> The other is a different art, . . . that must be learned by example."<sup>185</sup> The Example 67 shows the first kind of Trillo

<sup>183</sup>"Tirata (heißt ein Schusz oder Pheil) sind lange geschwinde Laufflein, so *gradatim* über ein Noten gemacht werden, und durch die *Claves* auff und niederwärts, hindurch lauffen.

Je geschwinder und scharffer diese Laufflein gemacht werden, doch also, dasz man eine jede Nota rein horen und fast vernehmen kan, je besser und anmuhtiger sie sehn werden. Crüger, *Musicae Practicae*, (1660), p. 26.

<sup>184</sup>"Trillo (heißt ein liebliches Saussen) ist zweryerley: Der eine geschicht *in Unisono* in einem *Clave*, wenn viel geschwinde Nöten nach einander repetiret werden:" Crüger, *Musicae Practicae*, (1660), p. 27.

<sup>185</sup>"Der ander Trillo ist unterschiedlicher Arten, Und ob zwar einen Trillo recht zu formiren unmöglich ist ausm fürgeschriebenen zu lernen wo es nicht *viva Praeceptoris voce & ope* geschehe . . . damit es einer vom andern observiren lerne . . ." Crüger, *Musicae Practicae*, (1660), p. 27.

and Example 68 shows the second type.

Example 67. Cruger, *Musicae Practicae*, (1660), p. 27.

Trillo

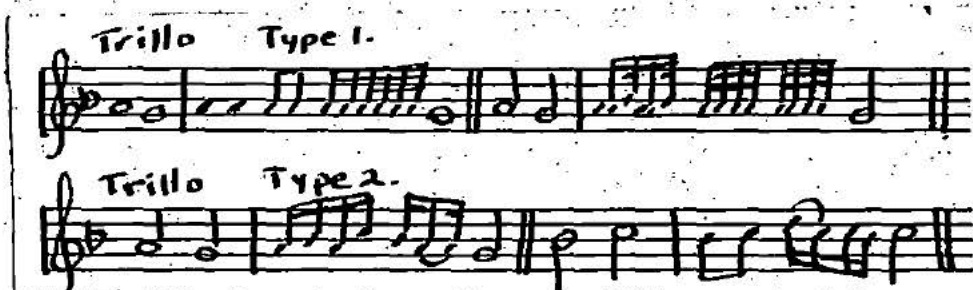
Musical notation for Example 67, showing two staves of music. The first staff begins with a whole note, followed by a trill, and ends with a quarter note. The second staff continues the trill and concludes with a quarter note.

Example 68. Cruger, *Musicae Practicae*, (1660), pp. 27-28.

Musical notation for Example 68, showing four staves of music. The first staff is a single melodic line. The second and third staves are a pair of voices in counterpoint. The fourth staff is a single melodic line. A sharp sign is visible below the final note of the fourth staff.

In this instance Crüger did not copy directly from Herbst; rather, the example of the second type of trillo is different. Example 69 shows Praetorius's work copied by Herbst.

Example 69. Praetorius (Herbst), *Syntagma*, (1619).

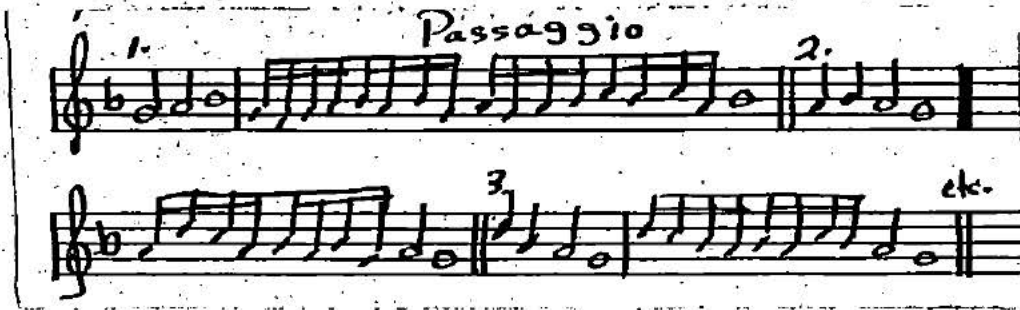


However, all agree that there are two types of *Trillo*, one being a repetition of a note, and the other a set of small patterns. The second type was a brief melismatic figure that stayed very close to the basic melody.

The *Passagio* consist of fast runs that bend through the ascending and descending intervals using Semiminimas, Fusas and Semifusas.<sup>186</sup> Crüger gives many examples of passage work. Example 70 is but the first three of the work, but he cautions that performers do not misuse this ornament so that the harmony and text are lost in the performance. Crüger gives fourteen examples of Passage work in the

<sup>186</sup> "Passaggio sind geschwinde Laufflein welche beydes gradatim und faltuatim durch alle Intervalla, so wol ascendendo als descendendo über den Noten durch Semiminimas, Fusas, und Semifusas formiret werden." Crüger, *Musicae Practicae*, (1660), p. 28.

Example 70. Crüger, *Musicae Practicae*, (1660), p. 28.



*Synopsis* (1654) and thirty-one in the *Musicae Practicae* (1660). These follow Herbst and Praetorius.

It is with the Passagework that Crüger attaches the EXCLAMATIO. His examples show how certain figures can follow certain Affects.<sup>187</sup> The affects he illustrates are Languid, Affected, Lively, and Very Lively. (*Languida, Affectuosa, Viva* and *Piu Viva.*) Example 71 shows these passages. In the *Synopsis* Crüger says that the ornamentation can also help the diction by raising and stressing certain syllables using the ornaments.<sup>188</sup> Example 72 shows these passages.

<sup>187</sup> "Hierzu gehöret nun auch EXCLAMATIO, welche das rechte Mittle ist die affectus zu moviren, musz mit Erhebung der Stimme geschehen und kan in Minimis and Semiminimis mit dem Punct angebracht werden. Ist unterschiedlicher Arten." Crüger, *Musicae Practicae*, (1660), p. 32.

<sup>188</sup> "Exclamatio, ut supra dictum cum elevatione vocis fieri amat qu appositè & concinnè adhibita optimum affectus movendi est medium Hujus diversi sunt modi, ut exempla subsequenta monstrant." Crüger, *Synopsis*, (1654), p. 201.

Example 71. Crüger, *Musicae Practicae*, (1660), p. 32.

Excl. Xanguida  
(b)  
affectuoso  
Viva  
Piu Viva  
etc.  
etc.

Example 72. Crüger, *Synopsis* (1654), p. 201.

1. Exclamatio

ut. re. mi. fa. sol. la.  
ha. sol. fa. mi re. ut.  
2. ut. re. mi.  
fa. sol. la. la.  
sol. fa. mi. re ut

"Crüger also mentions vibrato as an ornament, but he says that this is a string or instrument ornament, not a vocal one and it colours the tone rather than changing the harmony.

Ornaments play a central role in Crüger's interpretation of harmony. They help to stress accent points in the music as well as the text, by virtue of their floridness and their dissonance. These ornaments afford the performer a certain freedom to vary the sound of the music, but still stay within the harmonic and melodic bounds of the piece. The guides set in the tutor books were only just that; in the end the performer must do what he felt most comfortable with. Crüger cautioned many times that the music and text and ornaments must always be suitable and related. This relationship or Affect of the piece marked one of the foremost trends in Crüger's thinking. It was characteristic of many later Baroque composers' thinking. Although Crüger copied most of his examples, they are an accurate portrayal of what was prominent in actual seventeenth century performance and therefore become an important study for anyone wishing to analyze performance practices of the day. The most profitable way of learning the art of Ornamentation, Crüger believed, was by listening to performances of the ornaments and by using good taste in actually doing the performing. The caution was never to obscure the words or the harmony as these were both fundamental to music.

## CHAPTER 9

## CONCLUSIONS

"Crüger's theoretical treatises grew out of a need to present clear directions on how to understand, create and perform music. By using concise explanations and copious musical examples copied from his contemporaries he effectively achieved this end. These treatises were primarily *musica prattica* works but the instructions on harmonic composition and performance practices expanded into the areas of *musica theorica* and *musica poetica*.

Crüger followed Lippius' lead when discussing the concept of harmony. He established *monads* (single notes), *dyads* (intervals and two-note chords) and triads (*trias harmonica*) as the basic elements from which musical harmony was made. These sounds could be varied according to duration, volume and pitch. He felt that the arrangement of sounds in a composition was very important. The composition was viewed as a unified whole where the music (melody, harmony and rhythm) must display the same effect as the text.

"Crüger's view on harmony was very progressive in the early seventeenth century as it incorporated many of the ideas of composers writing in the *secunda prattica* manner (i.e., the Italian Monodists). He felt that the text/music relationship was of utmost importance. Ornamentation could cover faulty progressions if the affect of the

music was thereby enhanced. If the text demanded, dissonances could be used as could parallel octaves or fifths. Crüger's use and description of figured-bass was also very forward looking, as was his belief of the supremacy of the triadic chord over the dyadic chord. Crüger's idea that the bass (radix or root) was the most important note of the chord was definitely an idea characteristic of Baroque thinking. This idea led to a style of composition that was more vertical than horizontal in appearance. The music consisted of a series of vertical major or minor triads as opposed to a horizontal succession of intervals in counterpoint.

Crüger's compositions can be analyzed tonally, but this should not be done as he never mentions major or minor keys. Crüger, rather, is describing a series of major or minor chords that can be found in any piece of music. True, there might be a predominance of one or another chord, but this occurs because the modal scale used incorporated that particular triad. The piece was composed from within the hexachord system and major and minor triads (*trias harmonica*) were found in each of the modes. The specific triad used related to the affect of the piece. Each mode had an affect and major triads had a different affect from minor ones. The *dyads* could be used in composition, but the triads were better, because they represented the Holy Trinity (Three in One).

Crüger extensively describes the characteristics of the *dyads* and triads. The consonant *dyads* were named as perfect (8th, 5th and 4th) or imperfect (major and minor 3rds and 6ths). The dis-

sonant intervals (2nds or 7ths) were intrinsic if found naturally within the hexachord and extrinsic if found outside the hexachord created by the use of accidentals. The major triads were perfect and the minor triads were imperfect. Both kinds must be found in the natural or transposed location of the hexachord. Any spurious or faulty triads (other than major or minor) were to be altered by using accidentals. Crüger's naming of the *dyadic* intervals was in the conventional contrapuntal style and his naming of triads was in the modern Lippian style.

It is important to note that his explanations revolve around an analysis of mode classification not key classification. Crüger's concept of harmony is therefore not in the traditional contrapuntal style; nor is it in a post-Rameau tonal style, rather, it is pre-tonal. This kind of harmony should be classed as TRIADIC HARMONY and works written in this style should be analyzed with this in mind.

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APPENDIX A. *Præcepta Musicae Practicae* (1625)

Plate 1.	Title Page .....
	Transcription .....
	Chapter Headings .....

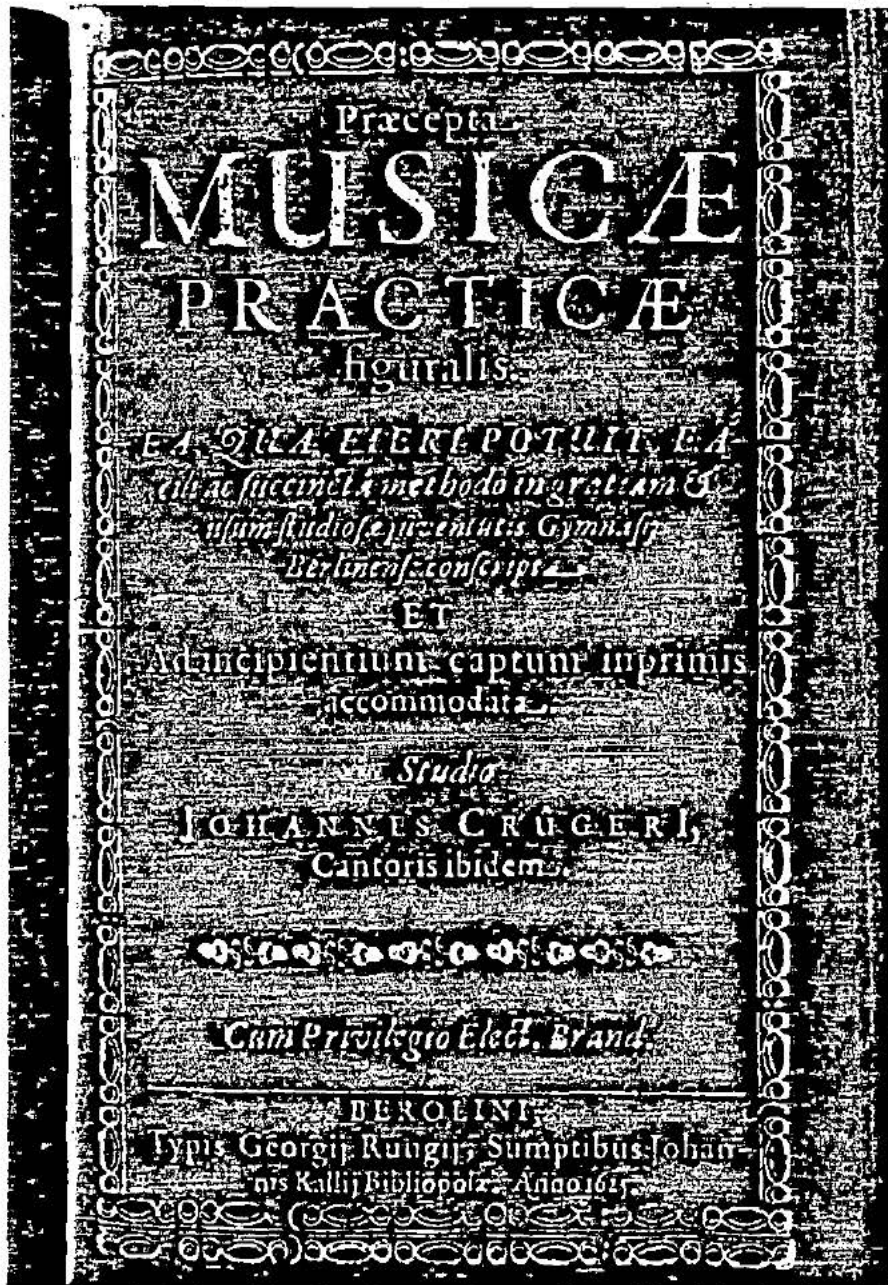


Plate 1. Title Page--*Præcepta Musicæ Practicæ* (1625)

Praecepta  
MUSICAE  
PRACTICAE  
figuralis

EA, QUA FIERI POTUIT FACILI,  
ac succinta methodo in gratiam &  
usum studiosae juventutis Gymnasij  
Berlinens: conscripta

ET  
Ad incipientium captum imprimis  
accommodata.

Studio

JOHANNIS CRÜGERI,  
Cantoris ibidem.

---

Cum Privilegio Elect. Brand.

---

Typis Georgij Rungij, Sumptibus Johannis  
Kallij Bibliopolae. Anno 1625.

## PRAECEPTA MUSICAE PRACTICAE FIGURALIS (1625)

Title Page

Dedication

General Introduction

Chapter I - DE CLAVIBUS

About Keys

Chapter II- DE VOCIBUS

About Voices (Sounds)

Chapter III- DE FIGURIS MUSICIS

About Musical Forms (Notes, Rests, Pauses)

Chapter IV- DE INTERVALLIS

About Intervals

Chapter V- DE SIGNIS QUIBUSDAM INTER CANENDUM SAEPE OCCURRENTIBUS

About certain signs that often occur during playing

Chapter VI- DE PROPORTIONIBUS

About proportions

Chapter VII- DE MODIS MUSICIS

About musical modes

APPENDIX B. *Kurtzer Und Verstendlicher Unterricht* (1625)

Plate 2.	Title Page .....
	Transcription .....
	Chapter Headings .....

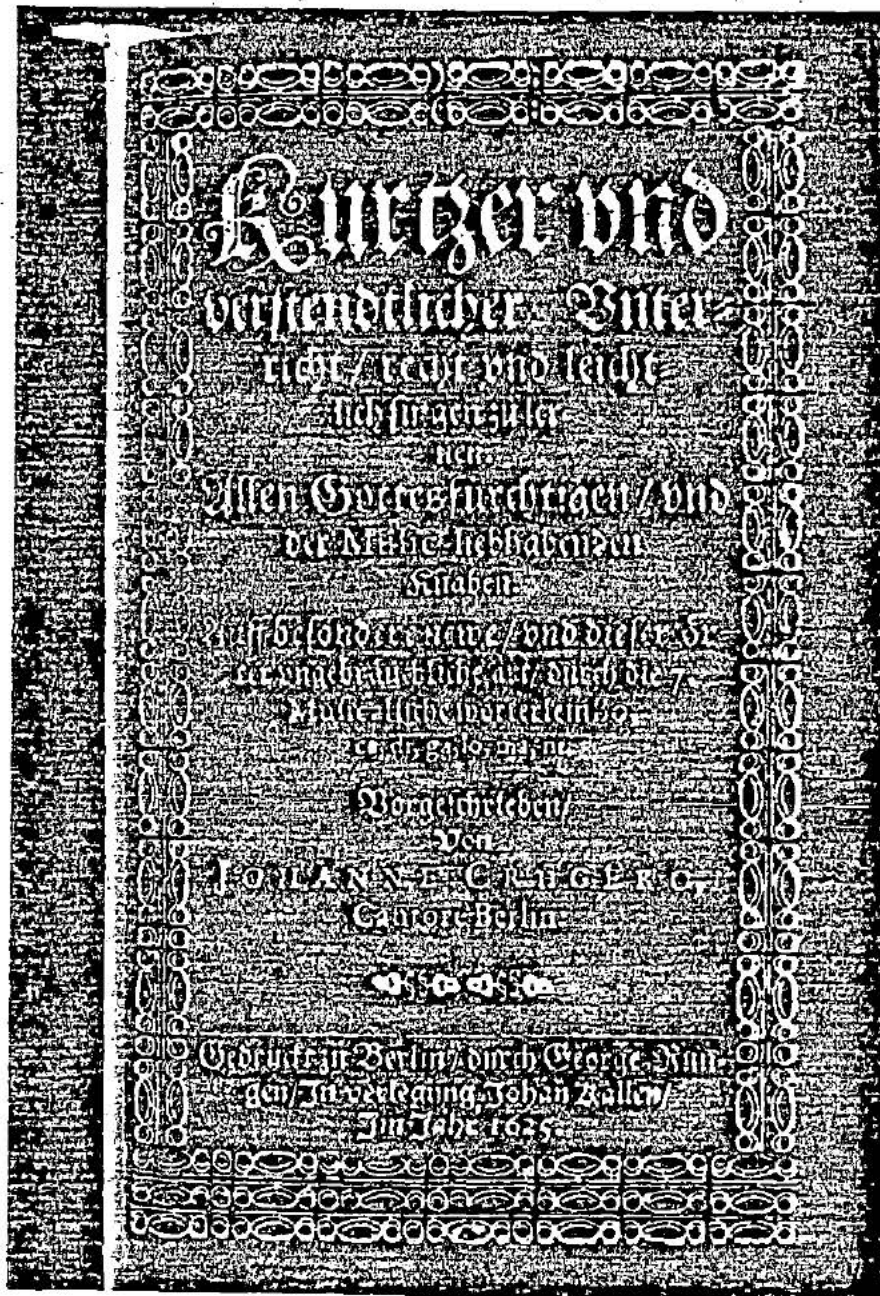


Plate 2. *Kurtzer Und Verstandteichter Unterricht* (1625)

Kurtzer vnd  
 verstandlicher Vnter-  
 richt / recht vnd leicht-  
 lich singen zu ler-  
 nen.

Allen Gottesfurchtigen / vnd  
 der Music liebhabenden  
 Knaben.

Auff besondere neue / vnd dieser ör-  
 ter vngebrauchliche art / durch die 7.  
 Musicalische wörterlein Bo,  
 ce, di, ga, lo, ma, ni.

Vorgescrieben /

Von

J O H A N N E C R Ü G E R O,

Cantore Berlin:

---

Gedruckt zu Berlin / durch George Rung-  
 gen / In verlegung Johan Kallen /  
 Im Jahr 1625.

## KURTZER UND VERSTENDLICHER VNTERRICHT (1625)

Title Page

General Introduction

Chapter I- VON DEN CLAVIBUS ODER SCHLUSSELN DER MUSIC

About keys in music

Chapter II- VON DEN VOCIBUS MUSICALIBUS ODER WÖRTERLEIN/ DIE IM  
SINGEN GEBRAUCHT WERDEN

About musical ~~words~~ (utterances) or little words  
that are used in singing ( Bacedization)

Chapter III- VON DEN FIGUREN

About figures (notes, rests, pauses).

Chapter IV- VON ETLICHE SIGNIS, SO IM GESANGE GAR OFT FÜRFFALLEN

About several signs that often occur in songs

Addendum - Musical Examples

APPENDIX C. *Synopsis Musica Continens* (1630)

Plate 3.	Title Page .....
	Transcription .....
	Chapter Headings .....



Plate 3. Title Page of *Synopsis Musica Continens* (1630)

## M V S I C A

GRAMMATICA

Synopsis Musica

ARITHMETIC

Continens

RATIONEM CONSTITUENDI & COMPO-  
NENDI MELOS HARMONICUM.

Conscripta variisq(ue) exem-  
plis illustrata

DIALECTICA

a

GEOMETRIA

Johanne Crügero Directore

Musico in Ecclesia Cathe-

drali ad D. Nicol:

q(uae) est Berolini

Cum gratia et Privilegio

Sumtibus Johannis Kallij Bibli.

RHETORICA

Anno 1630.

ASTOLOGIA

SYNOPSIS MUSICA CONTINENS (1630)

Title Page

Introduction

- Chapter I- DEFINITIONE MUSICES, ET PRINCIPIIS HARMONIAM  
CONSTITUENTIBUS  
A definition of music and the elements of harmony  
(The first principles constituting harmony)
- Chapter II- DE SONO SIMPLICI SEU MONADE MUSICA & EJUSDEM SEDE  
Concerning the simple (single) sound or musical  
unit and its placement
- Chapter III- DE SONORUM NOMINIBUS  
About the names of sounds (Hexachords)
- Chapter IV- FIGURIS SIVE SONORUM SIGNIS  
Signs of sounds (note lengths and rest lengths)
- Chapter V- DE TACTU  
About touch (tactus)
- Chapter VI- INTERVALLIS  
Intervals
- Chapter VII- DE SONO COMPOSITO & IN SPECIE DE DYAD MUSICA  
Concerning musical composition and in particular  
The musical dyad
- Chapter VIII- DE TRIADE MUSICA  
Concerning the musical triad
- Chapter IX- FORMA CANTIONIS HARMONICAE & IN SPECIE DE TEXTU  
The ideal of harmony and, in particular about  
structure (text)

- Chapter X- DE MELODIIS QUATOR PRINCIPALIBUS  
Concerning the four principal melodies (clefs)
- Chapter XI- DE MODIS MUSICIS  
About musical modes
- Chapter XII- CONJUNGENDIS ET ITA DISPONENDIS MELODIUS, UT EXINDE  
PRODEAT & ENASCATUR  
(About) joining eight so arranging melodies that it  
then advances and grows (modulations)
- Chapter XIII- ORNAMENTIS HARMONIAE & IN SPECIE SE DISSONANTIIS IN  
CELERITATE HARMONIA IMMISCENDIS  
(About) Embellishments of harmony and in particular  
about the intermingling of dissonances in harmon-  
ious swiftness
- Chapter XIV- SYNCOPATIONE  
Syncopation
- Chapter XV- DE CLAUSULIS FORMALIBUS  
About formal cadences
- Chapter XVI- DE FUGIS  
About fugues
- Chapter XVII- VARIIS CANTIONUM SPECIEBUS  
Various kinds of compositions (Music/Text)

APPENDIX D. *Quaestiones Musicae Practicae* (1650)

Transcription of Title Page .....
Chapter Headings .....

Quaestiones

MUSICAE

PRACTICAE,

Ex Capitibus comprehensae, quae  
perspicua, facili, & qua fieri potuit, succin-  
cta Methodo ad praxin necessa-  
ria continent,

In Gratiam et Usam Studio-  
sae juventutis conscriptae, variisqu(ue) idoneis exem-  
plis, una cum utilissima XII. Modorum  
doctrina illustratae

a

JOHANNE CRUGERO GUBIN: Lus:

Direct: Musico ad D. Nic:

Berolini.

---

Cum Privilegio Elect: Brand:

EDITIO TERTIA

Auctior & Correctior.

---

BEROLINI, Typis Christophori Rungi, Sumpti-  
bus Johannis Kallij Bibliopolae.

Anno 1650.

QUESTIONES MUSICAE PRACTICAE (1650)

Title Page

Introduction

Chapter I- QUID EST MUSICA PRACTICA?  
What is practical music?

Chapter II- DE NOTIS ET PAUSIS  
About notes and rests.

Chapter III- DE CLAVIBUS  
About Keys-

Chapter IV- DE VOCIBUS MUSICALIBUS  
About ~~vocals~~ music.

Chapter V- DE INTERVALLIS  
About intervals.

Chapter VI- DE MODIS MUSICIS  
About musical modes.

KURTZER EXTRACT AUSS VERHERGEHENDEN PRAECEPTIS MUSICIS, VOR GAR KLEINE  
KNABEN/ SO ERSTLICH ANFANGEN SINGEN ZU LERNEN. \*\*

A Short extract appended from the Praeceptis Musicis, for very small  
boys/ who (have) just started to learn to sing.

\*\* (Note that this second section is a summary of parts of chapters  
1-5, covering ten pages as opposed to the 37 pages in Latin.)

APPENDIX E. *Synopsis Musica Continens* (1654)

Plate 4.	Title Page .....
	Transcription .....
	Chapter Headings .....

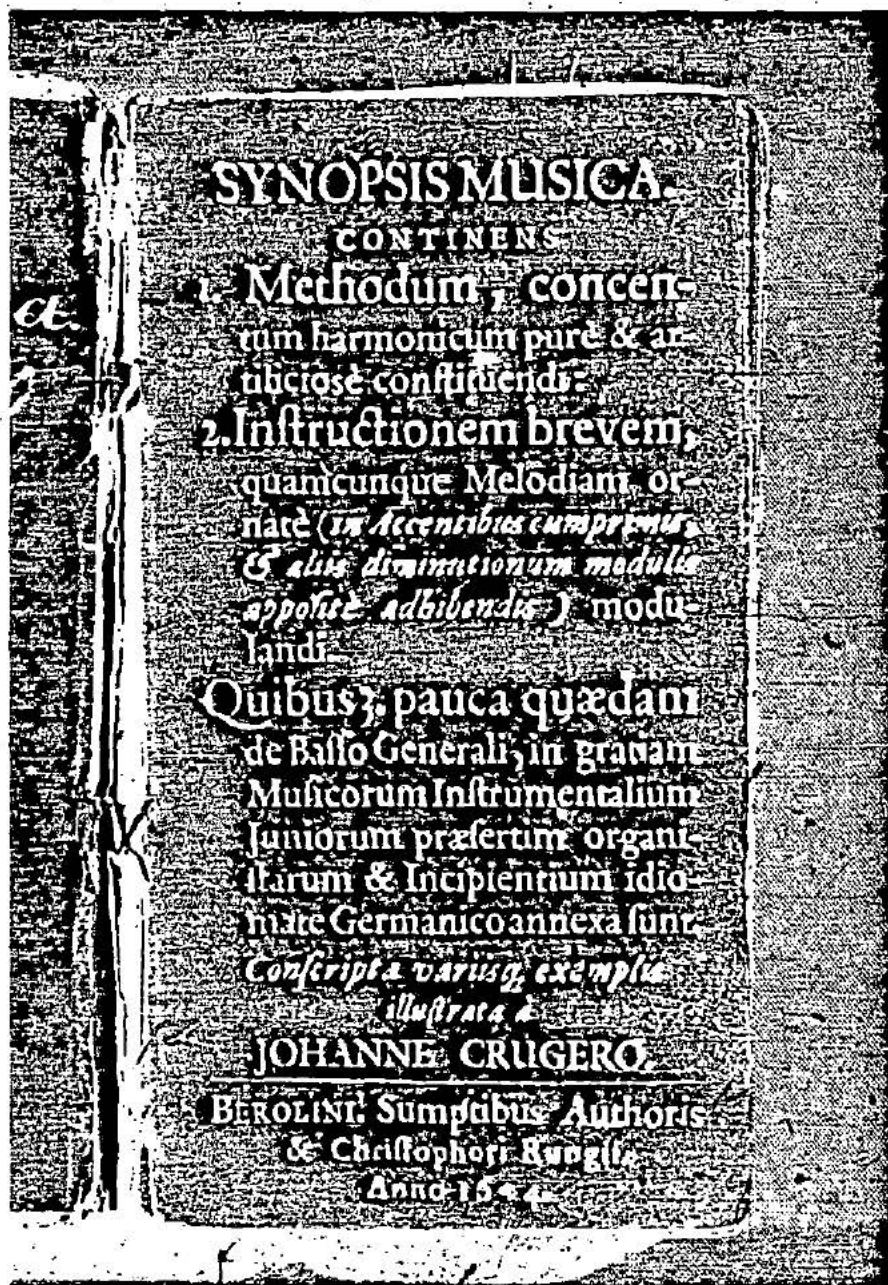


Plate 4. Title Page *Synopsis Musica Continens* (1654).

## SYNOPSIS MUSICA,

## CONTINENS

1. Methodum, concertum harmonicum purè & artificiosè constituendi:
2. Instructionem brevem, quamcunq̃ue Melodiam ornate (in Accentibus cumprimis, & aliis diminutionum modulis appositè adhibendis / modulandi.

Quibus 3. pauca quaedam  
de Basso Generali, in gratiam  
Musicorum Instrumentalium  
Juniorum praesertim organistarum & Incipientium idiomate Germanico annexa sunt.

Conscripta variisque exemplis

illustrata à

JOHANNES CRUGERO

---

BEROLINI. Sumptibus Authoris  
& Christopheri Rungii.

Anno 1654.

## SYNOPSIS MUSICA CONTINENS (1654)

Title Page

Dedication

- Chapter I- DE DEFINITIONE DIVISIONE ET SUBJECTO MUSICES.  
Concerning the definition, division, and subject of music.
- Chapter II- DE SONI AFFECTIONIBUS QUANTITATE SCILICET ET QUALITATE.  
Concerning the changes in sound (or tone) quantity and quality of course.
- Chapter III- DE SONI QUALITATE & IN SPECIE DE CLAVIBUS.  
Concerning sound quality and in particular about keys.
- Chapter IV- DE VOCIBUS EARUMQUE CUM CLAVIBUS CONJUNCTIONE & MUTATIONE.  
Concerning *vowels* and their conjunction and change with the keys.
- Chapter V- DE DEFFERENTIA IPSA SONORUM SEU INTERVALLIS.  
Concerning the difference itself between notes, or intervals.
- Chapter VI- DE PARTE COMPOSITA.  
About part composition.
- Chapter VII- DE MELODIIS EARUMQUE DISPOSITIONE.  
Concerning melodies and their arrangement.
- Chapter VIII- DE CONJUNGENDIS & ITA DISPONENDIS SONIS & MELODIIS-  
UT EXINDE PRODEAT & ENAFCATUR MELOS HARMONICUM.  
Concerning the conjunction and thus the arrangement of notes and melodies - so that thence harmony may appear and arise.

## SYNOPSIS MUSICA CONTINENS (1654)

- Chapter IX- CONTINENS LEGES SEU REGULAS QUASDAM IN CONSTITUENDA BONA  
& PURA HARMONICA OBSERVANDAS  
Containing certain laws or rules to be observed in  
arranging good and pure harmony.
- Chapter X- DE PROGRESSU CONSONANTIARUM IMPERFECTARUM  
Concerning the progression of unfinished harmonies.
- Chapter XI- DE MODIS MUSICIS  
Concerning musical modes.
- Chapter XII- DE ORNAMENTIS HARMONIAE . . .  
Concerning embellishments of harmony.
- Chapter XIII- DE SYNCOPATIONE  
Concerning syncopation.
- Chapter XIV- DE CLAUSULIS FORMALIBUS  
Concerning cadences.
- Chapter XVI-- DE FUGIS  
Concerning fugues.
- Chapter XVI- DE ORATINE SIVE TEXTU  
Concerning speech or text.
- Chapter XVII- DE VARIIS CANTIONUM SPECIEBUS  
Concerning various forms of composition.
- Appendix- DE BASSO GENERALI SEU CONTINUO  
Concerning the general or continuous bass.

APPENDIX F. *Musicae Practicae* (1660)

Plate 5.	Title Page .....
	Transcription .....
	Chapter Headings .....

**MUSICÆ PRACTICÆ**  
 Præcepta brevia, & exercitia pro Tyronibus  
 varia...

---

Der  
**Rechte Weg zur Singekunst/**  
 Darinnen begriffen  
 Ein kurzer und gründlicher Unterricht/wie  
 die Jugend/ so Beliebung zur Music trägt. Kleicht  
 und vorthailbafftig kan angelehret werden durch die 6. Vo-  
 ces Musicales Ut, Re, Mi, Fa, Sol, La, nach Anleitung des  
 einzigen Clavis b k die Singekunst recht und wol zu  
 fassen/ und nach iso gebräuchlicher manier  
 zu practiciren.

Nebenst gänzlichlicher Verwerffung des hin und  
 wieder eingeführten Singens  
 Nach den Buchstaben A, b, c, d, e, f, g, h, cis, dis, gis, fis  
 Welchem zu mehrer und besser Übung allerhand  
 2. stimmige Fugen, wie auch andere 3. stimmige Ge-  
 sängelein und Concertlein mit und ohne Text  
 beygefüget.

Alles der lieben Jugend zum Besten/und deren  
 Vortheil im singen zu besondern/  
 Aufgesetzt  
 von  
**Johann: Crügeren / Gub. Lut.**  
 Direct. Mus. in Berlino.  
 Darin/ Sumptibus Authoris  
 1660.




Plate 5. Title Page of *Musicae Practicae* (1660).

MUSICAE PRACTICAE  
 Praecepta brevia & exercitia pro Tyronibus  
 varia.

---

Der

Rechte Weg zur Singekunst /  
 darinnen begriffen

Ein kurtzer und gründlicher Vnterricht / wie  
 die Jugend / so Beliebung zur Music trägt / leicht  
 und vorthailhaftig kan angeführet werden durch die 6. Vo-  
 ces Musicales Ut, Re, MI, FA, SOL, LA, nach Anleitung des  
 einzigen Clavis b<sup>4</sup> die Singekunst recht und wol zu  
 fassen / und nach itzo gebräuchlicher manier  
 zu practiciren

Nebenst gantzlicher Verwerffung des hin und  
 wieder eingeführten Singens

nach den Buchstaben A, b, c, d, e, f, g, h, cis, dis, gis, fis

Welchem zu mehrer und besser Vbung allerhand  
 2. stimmige Fugen, wie auch andere 3. stimmige Ge-  
 beygefüget.

ALLES DER LIEBEN JUGEND ZUM BESTEN / UND DERER  
 Vorthail im singen zu gefodern /

Auffgesetzt

von

JOHANN : CRÜGERN / Gub. Lus.  
 Direct. Mus. in Berlin.

---

Berlin / Sumptibus Authoris.

1 6 6 0.

## MUSICAE PRACTICAE (1660)

Title Page

Introduction

Chapter I- NOTES & PAUSIS

Notes and rests.

Chapter II- CLAVES

Keys.

Chapter III- DE VOCIBUS MUSICALIBUS

Concerning musical vowels.

Chapter IV- DE INTERVALLIS MUSICIS

Concerning musical intervals.

Chapter V- DE SIGNIS QUIBUSDAM IN CANTU OCCURRENTIBUS & PROPOR-  
TIONIBUS

Concerning certain signs and proportions occurring  
in music.

Chapter VI- DE DIMINUTIONIBUS NOTULARUM

Concerning diminutions of notes.

Adendum

*VITAE*

Surname: UNGER-BURN Given Names: ROSALYN KAY HELENA

Place of Birth: GULL LAKE, SASK. Date of Birth: September 6, 1947

Educational Institutions Attended, with Dates of Entering and Leaving:

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UNIVERSITY OF VICTORIA, B.C. 1973 to 1983

Degrees, Diplomas, Etc., Awarded with Dates and Names of Institutions:

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A.R.C.T. 1972 Royal Conservatory of Music,  
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Honors and Awards:

Dean's Award, 1974/1975

University of Victoria Scholarship 1977/1978 and 1978/1979

B.C. Registered Music Teachers Award for Highest Marks in A.R.C.T.  
Piano, 1972

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Title of Thesis

THE CONCEPT OF HARMONY IN JOHANN CRÜGER'S THEORETICAL TREATISES:  
A PRACTICAL DISTILLATE OF SEVENTEENTH-CENTURY MUSICAL IDEAS

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