Clavierübung III of J. S. Bach
Theology in Notes and Numbers[1], Part 1

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It goes without saying that the primary task of every performer who wishes to convey the meaning of any given musical work must first be to understand the original intention of the composer. And when the works in question are those of Johann Sebastian Bach, where the invisible thread that should link us to the era in which he lived seems to be irretrievably broken, the task takes on Herculean proportions. The aim of this analysis is to attempt a correct reading of the *Clavierübung III*—one of the most enigmatic works in the whole literature of the organ.

This work, which was composed at the high point of the composer's creativity (1739), impresses us by its dimensions alone. It is part of a cycle of works, comprising the *Six Partitas* (Part 1, composed in 1731, BWV 825–830), the *French Ouverture* and the *Italian Concerto* (Part 2, composed in 1735, BWV 831, BWV 971), as well as the *Goldberg Variations* (Part 4, composed in 1742, BWV 988). And the *Clavierübung III* itself is also a cyclical work—it consists of 21 chorale preludes and four duets framed by a prelude and a fugue in E-flat major.

Bach certainly accorded the *Clavierübung III* particular importance. It is no coincidence that this was the first work for organ that he had published in Leipzig. What was Bach's purpose in writing this work, and what means did he choose to fulfil it?

The history of the composition. The intentions and aims of the composer

The *Clavierübung III* was written to coincide with the 200th anniversary of Luther's visit to Leipzig and the festal Whitsun service in St. Thomas Church on the 25th of May 1539, which effectively marked the official recognition of the Reformation in Leipzig. The *Clavierübung III* consists essentially of arrangements of chorales from the Protestant church service, and in its structure it is reminiscent of Luther's Catechism, which consists of two parts: the Greater Catechism deals with the principles of faith, while the Lesser Catechism is directed more towards children and the less-educated part of the population. Correspondingly, each chorale melody—with the exception of *Allein Gott in der Höh' sei Ehr'* [Glory be to God alone on high]—is presented in two versions: a greater version which uses all the resources of the organ including the pedals, and a shorter *manualiter* version.

And indeed, because of its special structure, the *Clavierübung III* has often in the past been referred to as an "Organ Catechism," and correspondingly it is usually referred to today as the "Organ Mass." It is clear that neither of these two names do full justice to the structure of Bach's composition. Nor do they explain the inclusion of the four duets.

The title of the work is as follows:

Dritter Theil / der / Clavier Übung / bestehend / in / verschiedenen Vorspielen / über die / Catechismus- und andere Gesaenge, / vor die Orgel: / Denen Liebhabern, und besonders denen Kennern / von dergleichen Arbeit, zur Gemüths Ergezung / verfertiget von / Johann Sebastian Bach, / Koenigl[ich] Pohlnischen, und Churfürstl[ich] Saechs[eschen] / Hoff-Compositeur, Capellmeister, und / Directore Chori Musici in Leipzig. / In Verlegung des Authoris.

[Third Part of the Clavierübung consisting of various preludes on the Catechism and other Hymns for the organ: for amateurs, and especially for connoisseurs of such work, for the refreshment of their souls, executed by Johann Sebastian Bach, Royal Polish and Electoral Saxon Court Composer, Capellmeister, and Directore Chori Musici in Leipzig. Published by the author.]

Bach here follows the example of his predecessor at St. Thomas Church, Johann Kuhnau (1660–1722), and modestly calls his work *Clavierübung* [Keyboard Exercise].[2] He thereby encourages us, through diligent practice (*Übung* in German), to understanding his purpose in writing this work.

Let us accept this invitation.

The first question, even after a cursory look at Bach's work, is probably "What does it represent in this compositional form? Are we to understand it as a unified dramatic whole or as a collection of diverse pieces for the keyboard?"

Characteristically, the usual concert practice suggests that the *Clavierübung III* is not seen as an integral work: virtually nobody plays the whole composition in its published form.[3] But the question nevertheless remains: Is there really no suggestion of an overall dramatic structure within the work?

An analysis would help us to answer this question. But before we tackle it, we should—even very generally—look at some characteristics of the musical aesthetics and Bach's particular compositional style during the period when he was working on the *Clavierübung III*.

The theological and philosophical basis of the work of J. S. Bach

Bach's personal philosophy was heavily influenced by the philosophical ideas and the personality of Martin Luther (1483–1546). Books written by Luther accounted for a quarter of all the books in Bach's private library. According to the personal inventory that was made after his death, Bach owned two complete editions of the works of Martin Luther in Latin and German, as well as works of his successors: Abraham Calov, Martin Chemnitz, Johannes Olearius, and others.[4] The title page of an earlier version of the *Clavier-Büchlein für Anna Magdalena Bach*[5] bears a note giving the title of the work as *Anti-Calvinismus* by August Pfeiffer, written in Bach's own hand.

It is well known that Luther was a well-educated musician.[6] In contrast to the majority of the reformers in the 16th century, Luther considered music to be a form of divine revelation. In the foreword to Georg Rhau's anthology *Symphoniae iucundae*[7] he wrote: "In summa: Die edle Musika ist nach Gottes Wort der höchste Schatz auf Erden."[8] [Summing up: Noble music is the greatest treasure on earth next to the Word of God.] He is quoted in the *Encomion musices* as giving a similar definition: "Musika ist eine schöne, liebliche Gabe Gottes, sie hat mich oft also erweckt und bewegt, daß ich Lust zu predigen gewonnen habe..."[9] [One of the finest and noblest gifts of God is music. It has often aroused and moved me so that I have gained a desire to preach . . .] And in a letter to Ludwig Senfl of 4 October 1530 we find the following lines in his handwriting:

> Et plane judico, nec pudet asserere, post theologiam esse nullam artem, quae musicae possit aequari, cum ipsa sola post theologiam id praestet, quod alioqui sola theologia praestat, scilicet quietem et animum laetum…[10]
>
> [I plainly judge, and do not hesitate to affirm, that except for theology there is no art that could be put on the same level with music, since except for theology, (music) alone produces what otherwise only theology can do, namely, a calm and joyful disposition.[11]]

Luther's views were akin to those of Bach. Like the great reformer, Bach saw the world of music and the world of theology as very closely connected.[12] A short handwritten treatise concerning figured bass, which Bach wrote while working on the *Clavierübung III,* is introduced with the following words:

> Der Generalbaß ist das vollkommenste Fundament der Music welcher [auf einem Clavier] mit beyden Händen gespielt wird dergestalt das die lincke Hand die vorgeschriebenen Noten spielet die rechte aber Con- und Dissonantien darzu greift damit dieses eine wohllklingende Harmonie gebe zur Ehre Gottes und zulässiger Ergötzung des Gemüths und soll wie aller Music, also auch des General Basses Finis und End Uhrsache anders nicht, als nur zu Gottes Ehre und Recreation des Gemüths seyn. Wo dieses ists keine eigentliche Music sondern ein Teuflisches Geplerr und Geleyr.[13]
>
> [The thorough-bass is the most perfect foundation of music. It is played with both hands on a keyboard instrument in such a way that the left hand plays the written notes, while the right hand strikes consonances and dissonances, so that this results in full-sounding *Harmonie* to the Honor of God and the permissible delight of the soul. The ultimate end or final goal of all music, including the thorough-bass, shall be nothing but for the Honor of God and the renewal of the soul. Where these factors are not taken in consideration, there is no true music, rather, devilish bawling and droning.[14]]

When Bach at the age of 23 left Mühlhausen, he declared that the *Endzweck* [ultimate aim] of his creative work would be the *regulirte kirchen music zu Gottes Ehren* [regulated church music to the glory of God].[15]

One can further assess the musical and aesthetic views of the composer with the help of his annotations in the margins of a Bible that was published by Abraham Calov (1681–1682) in Wittenberg.[16] These marginalia are quite valuable—they allow us to catch a glimpse of the personal views of their writer and open up his world for us.

Already in Exodus, Chapter 15, where the prophetess Miriam sings of the wonderful deeds of God, we can read in Bach's own hand: "N.B. Erstes Vorspiel auf 2 Chören zur Ehre Gottes zu musiciren." [N.B.: First prelude for two choirs to be sung to the glory of God.] As a comment on First Chronicles 29, v. 21[17] we find the following statement by the composer:

> Ein herrlicher Beweiß, daß neben andern Anstalten des Gottesdienstes, besonders auch die Musica von Gottes Geist durch David mit angeordnet worden.
>
> [Splendid proof that, besides other arrangements for worship, music too was instituted through David by the Spirit of God.][18]

First Chronicles 26 describes the choosing of musicians for the temple. Bach's comment: "Dieses Capitel ist das wahre Fundament aller Gott gefälligen Kirchen Music." [This chapter is the true foundation of all church music pleasing to God.]

And one final quote: Second Chronicles, chapter 5 contains the passage:

> . . . it was the duty of the trumpeters and singers to make themselves heard in unison in praise and thanksgiving to the LORD, and when the song was raised, with trumpets and cymbals and other musical instruments, in praise to the LORD "For he is good; for his steadfast love endures for ever," the house, the house of the LORD, was filled with a cloud, so that the priests could not stand to minister because of the cloud; for the glory of the LORD filled the house of God. (2 Chronicles 5:13–14)[19]

Bach annotates this text with a remarkable comment that has programmatic significance and shows not only his relationship to the composing, performing, and hearing of music, but also to the activities of a church musician in general: "Bey einer andächtigen Musique ist allezeit Gott mit seiner Gnaden Gegenwart." [Where there is devotional music, God with His grace is always present.]

These examples suffice to clarify where we must start if we wish to analyze the works of Johann Sebastian Bach. Albert Schweitzer wrote in his masterful fashion: "Music is an act of worship with Bach… For him, art was religion..."[20] The orthodox Lutheran Bach, who was born and raised in Eisenach, Luther's own town, where the façade of the main church of St. George was decorated with the Protestant motto "A mighty fortress is our God," transcended in his music the boundaries of confession and creed. "In the last resort, however, Bach's real religion was not orthodox Lutheranism, but mysticism. In his innermost essence he belongs to the history of German mysticism."[21]

This mystical sensitivity to the presence of God and the desire to give witness to Him through music, coupled with his dazzling talent, enabled Bach in his later works to develop an astonishing artistic fusion, the likes of which had not been seen in the world's cultural history.

In 1747 Bach was admitted to the *Societät der musikalischen Wissenschaften* [Society of the Musical Sciences], which his one-time pupil, the philosopher and music author Lorenz Christoph Mizler von Koloff (1711–1778), had founded.[22] Mizler, a friend of Bach's, was strongly influenced by Pythagorism and the rational philosophy of both G. W. Leibnitz (1646–1716) and Christian Wolff (1679–1754). He saw music as a mathematical science.[23]

The very fact that Bach accepted Mizler's invitation to join the *Societät der musikalischen Wissenschaften* is in itself significant. The composer obviously sympathized with Pythagoras's ideas concerning the universe and its perfect harmony: a harmony that, according to the teachings of the ancient philosopher and mathematician, was expressed in numbers,[24] and shared the convictions of his progenies.

J. S. Bach became the fourteenth member of the Society after G. F. Telemann (6) and G. F. Händel (11), together with other well-known scholars and philosophers. Following the established tradition, upon joining the Society he contributed a mite of his own. In addition to the *Canonic variations on "Vom Himmel hoch, da komm' ich her"* (BWV 769), the composer also donated a portrait of himself to the Society, which had been painted in 1746 by Elias Gottlob Hausmann. A microanalysis of the music manuscript that appears in this painting has been made by Friedrich Smend. The results have thrown light on significant aspects of Bach's compositional methods, which until the middle of the twentieth century had not attracted much attention by scholars.[25]

Smend's publication gave new impetus to investigating numerology in the works of the Cantor of St. Thomas Church in Leipzig.[26] It is not without interest that the researchers first found support in the writings of Christian theologians, but later more and more in the works of the ancient philosophers.[27]

Features of J. S. Bach's compositional method

Albert Schweitzer defined Bach as a phenomenon in the history of music: "Bach is . . . a terminal point . . . everything merely leads up to him."[28] Indeed the works of the Cantor of St. Thomas make use not only of the fruits of earlier achievements in composition, but they are also the consummation of the most characteristic tendencies in the music of his own time. He makes use of a plethora of past and present expressive techniques and puts them at the disposal of one single goal: the creation of "devotional music."

So what exactly were the artistic methods used by J. S. Bach as a composer?

Victor Hugo once described Gothic cathedrals as "symphonies in stone." If we apply this quotation to the works

of Bach, we could say that his larger compositions are "Gothic cathedrals" in music. And when one looks more closely at how Bach approached a new composition we can actually find quite close parallels to architecture. One could contrast, for example, Bach's methods with the processes current in Viennese Classicism. Whereas in the latter period composition proceeded in a "linear" fashion, beginning from the melody in one of the voices, the methods of Bach's time started from quite a different point. First of all, the composer laid down a concept of the entire work, or—to use the architectural analogy—he created a "ground-plan." Then he proceeded to fill in the details. An example of this method is provided by the *Orgelbüchlein* [Little Organ Book] (BWV 599–644).

This working method gave free rein to the composer's imagination. The proportions of the composition and its "saturation" with both obvious and more hidden details—factors that played an important role in determining the overall sense of the work—could easily be incorporated in the composition from its very beginning. Great importance was attached to *Affektenlehre* [Doctrine of the Affections], musical-rhetorical figures, and numerology.

Bach was without a doubt a brilliant "musical architect." There is no room in his works for anything non-essential. He worked in a similar fashion to the architects of the Middle Ages: every detail has its origin in the concept governing the whole. And as with the medieval builders, much of this work remains, even today, shrouded in mystery. There are always new avenues opening up in these seemingly well-known works for new generations of interpreters to explore.

One can of course only penetrate more deeply into this musical architecture of most of Bach's works if the connection to the words of the chorales used by the composer is taken into account. Johann Gotthilf Ziegler (1688–1747), a pupil of Bach, wrote in 1746: "Herr Capellmeister Bach, who is still living, instructed me when playing hymns, not to treat the melody as if it alone were important, but to play them taking into account the affect of the words."[29]

Johann Mattheson (1681–1764) described music as sounding speech. Naturally this form of speech required its own lexicon in the shape of the definite progressions of musical notes bearing the semantic meaning—the motives, or musical-rhetorical figures, as they are called. These were quoted by Bach's cousin, Johann Gottfried Walther (1684–1748), in his *Musicalisches Lexicon* [Music Encyclopaedia] (1732) and in the *Praecepta der Musicalischen Composition* [Principles of Musical Composition] (1708). Another important compositional aspect was the use of rhetorical laws in the construction of the musical structure, so that the composition began to resemble a religious sermon. As already mentioned, the *Affektenlehre* [Doctrine of the Affections], which depended upon the use of unequal temperament and the resulting different emotional character of the various keys, played an important role in composition,[30] as did, surrounded as it was by an air of mystery, numerology with its different levels of meaning.

One of these levels is to be found in allegorical symbolism. Andreas Werckmeister (1645–1706) gave the following meanings to the first eight numbers in *Musikalische Paradoxal-Discourse*:[31] 1 – God, unity; 2 – The Word, God the Son; 3 – The Holy Spirit; 4 – The world of angels; 5 – Symbol of Mankind ("sensual Mankind" [Numerus sensualis]); 6 – Third Person of the Godhead (3×2);[32] 7 – Symbol of purity and peace; 8 – Symbol of wholeness and perfection.

Another level is that of semantic symbolism. For example, the number 7 symbolises the Seven Last Words on the Cross.

A third level is that of cabbalistic symbolism. Each letter of the alphabet stands for a particular number: a = 1, b = 2, c = 3 and so forth. The letters i and j share the number 9, while u and v are both attributed to the number 20. This means that particular combinations of letters each have a corresponding number. For example, the number 14 is the sum of the numerical values of the letters BACH. Thus the number 14 (or similar numbers, such as 140 or 1.4) would be associated with the composer Bach, whose name was assembled from these individual letters.

Numbers were also used as a constructive element, whereby the harmonic proportions of the ratios of simple numbers, which had been known since Pythagoras's time, were incorporated into the composition. In addition, the *proportio divina*, the "Golden mean," was also used. Naturally Bach was a consummate master of all these creative methods and he used them constantly in his compositions. The most obvious example is the *Clavierübung III*, which occupies a key position among all Bach's works for the organ.

Let us examine the structure of this composition more closely.

The chorale preludes

The central part of the work under consideration, as Bach's title-page suggests, is the collection of chorale preludes. This collection covers not only the essential elements of the Protestant liturgy but also of Luther's Catechism.

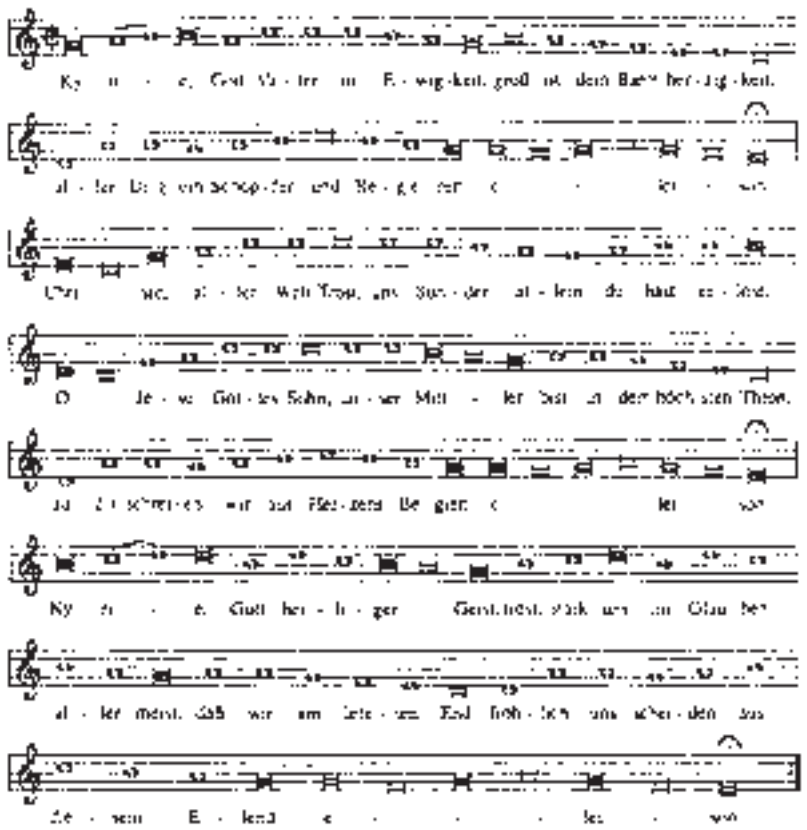
Kyrie, Gott Vater in Ewigkeit – Christe, aller Welt Trost – Kyrie, Gott heiliger Geist [Kyrie, God the Father, eternal – Christ, consolation of all the world – Kyrie, God the Holy Spirit] (BWV 669–674)

The triad of the first chorales creates a sense of unity. The models for these autonomous works were certain verses of the Gregorian chorale *Kyrie fons bonitatis* (10th century),[33] which display the characteristic of a refrain. (Example 1) Such a compositional method is seldom found among Bach's organ works. In the context of *Kyrie – Christe – Kyrie* it allowed the composer to establish by means of music the essence of the "one and indivisible" Holy Trinity.[34]

The first motif of the *cantus firmus* is characterized by a stepwise progression. In the final statement of the *cantus firmus* (which is the same in all three compositions), note the upwards leap over a fifth. It is perhaps of interest to note that both the stepwise movement on the one hand and the prominent role of the fifth on the other (elements that determine the mood of the first chorales of the *Clavierübung III*) play an important part in the dramatic construction of the whole work.

The unity of the initial *Kyrie – Christe – Kyrie* is underlined by the fact that they are written in a single compositional style—the *stile antico*. Hermann Keller described them as "Orgelmotetten kunstvollster Art" [The most highly artistic motets for organ].[35] The music suggests

Example 1



greatness and quiet strength. The movement of the accompanying voices working out the motifs of the *cantus firmus* is linear. The *cantus firmus*, which is kept in longer note values, appears successively in the soprano (*Kyrie, Gott Vater in Ewigkeit*), in the tenor (*Christe, aller Welt Trost*), and in the bass (*Kyrie, Gott heiliger Geist*), and thus symbolizes in similar fashion the three Persons of the Trinity: God the Father, who is above all, who holds all in being; Jesus Christ, the mediator between God and humankind; and the life-giving Holy Spirit.

The epic element appears organically tied to the inner dynamics of the *Kyrie – Christe – Kyrie*. The contemplative character of the first chorale gives way to a feeling of emotional turbulence in the second chorale. The third chorale is energy-laden, an effect achieved by the introduction of a fifth voice, the acceleration of the musical structure, and the use of chromatics.

The end of the chorale *Kyrie, Gott heiliger Geist* is quite remarkable: against the backdrop of the final statement of the *cantus firmus* in the pedals, a tie overflowing with chromatic dissonances appears in the upper voices. These six-and-a-half bars differ quite markedly from all that has gone before. The sound as it were illustrates the text, which at this point contains a plea for mercy. The word *eleison* is accompanied by an *ostinato*, which climbs in seconds and by a chromatic *figura parrhesia*. The music suggests a certain personal involvement. It is significant that one finds the motif BACH in crab motion here (although it appears in other notes), and finally encounters the signature of the composer: CH-BA in the alto of the penultimate bar. (Example 2)

There are altogether 60 bars in the chorale prelude *Kyrie, Gott heiliger Geist*, which matches Werckmeister's concept well.[36] And there is of course the additional association with the creation of the world (the six days of God's creative work).[37] It is worth mentioning that in the first prelude of the *Clavierübung III* the numerical symbol for the name Bach already occurs more than once. The subsequent statement of the theme in the chorale *Kyrie, Gott Vater in Ewigkeit* is not only emphasized by the use of parallel thirds, but also by its extension to 14 notes (the numerical value of the letters BACH).[38] And the *cantus firmus* in the chorale prelude *Kyrie, Gott heiliger Geist* has a total of 41 notes (JSBACH).

The three *manualiter* Kyries, each in the form of a small *fughetta*, all elaborate the opening motif of the appropriate verse of the chorale. Each following chorale begins in the soprano with the last note of the preceding chorale, which serves to underline the inner unity of the three *manualiter* pieces *Kyrie – Christe – Kyrie*.

An interesting aspect, which is seldom found within Bach's organ works, is how the keys of the six pieces we have looked at are related. Each of them has at least two tonal centers. We should not let the key signature with three flats of the greater chorale preludes *Kyrie – Christe – Kyrie* confuse us: the rules of musical notation would certainly have allowed these preludes to have been written with only two flats. It would appear that the composer intentionally adopted three flats in order to strengthen the association with the Holy Trinity.

Allein Gott in der Höh' sei Ehr' [Glory be to God alone on high] (BWV 675–677)

A special feature of the following section of the *Clavierübung III* is the fact that it has three different preludes on the chorale *Allein Gott in der Höh' sei Ehr'*—the Protestant version of the *Gloria in excelsis* from the Gregorian Mass for Easter Sunday. An explanation for this phenomenon must be sought in the text of the chorale itself,[39] as it sings the praises of the Holy Trinity. Correspondingly, Bach includes three preludes here, each of which is a very individually elaborated piece in three-part texture.

In the first prelude, elegant and rhythmical canon-like outer voices surround the *cantus firmus* in the alto. The next prelude is executed as a trio sonata with pedal obligato. The *cantus firmus* appears from time to time in one or other of the voices of this exquisite trio and blends with the natural flow of the music.[40] The last chorale prelude is a small fugato in the manner of an Italian *versetto*, based on the first notes of the *cantus firmus*.[41] All in all, these three versions of the angel's praise *Allein Gott in der Höh' sei Ehr'* create a feeling of incorporality and immateriality, convincing us by their clarity and purity, and creating an impression of harmony and perfection.

In this section of the *Clavierübung III* there is a small, at first glance insignificant, compositional detail that is, however, very interesting when seen from the perspective of the dramatic construction of the whole. The keys of the chorale preludes—F major, G major, and A major—form an ascending motif that is the basis for all three preludes on *Allein Gott in der Höh' sei Ehr'*. The composer must assuredly have chosen this sequence of keys with the aim of thus uniting the whole cycle. Numerology reveals another interesting aspect—the numerical values of F, G, and A (6 +7 + 1) comes to 14, the same value as BACH.

Dies sind die heil'gen zehn Gebot' [These are the holy Ten Commandments] (BWV 678–679)

Following the lead of Luther's Catechism, Bach now begins an extensive section of the *Clavierübung III* with arrangements of the Gregorian chorale on an Old Testament theme, *Dies sind die heil'gen zehn Gebot'*.[42] This is the last pair of chorales in a major key for the remainder of the cycle and the only time that Bach uses the same key for two consecutive compositions—Mixolydian G major, which is one of the purest keys in unequal temperament. It is significant that in both the *Orgelbüchlein* and in Cantata 77, the chorale melody *Dies sind die heil'gen zehn Gebot'* is also written in this key.

The greater chorale prelude is developed as a composition for five voices, with the *cantus firmus* appearing a total of five times as a canon in the tenor. Thus it appears ten times in all, symbolizing an obedient response to the Law.[43]

The beginning of the prelude is wonderful: over a pedalpoint we hear, emerging out of the stillness, the motif of three descending notes, which we encountered earlier in the piece, worked out as a canon in the upper voices. The measured diatonic motion, the prepared suspensions, the surrounding motifs, and the ascending triads—these are just some of the musical means the composer has used to create a world of unspoiled purity, order, and harmony, in which the unsullied inhabitants of Paradise were at home before the Fall. (Example 3)

A change in character occurs in the fifth bar[44] with the introduction of a *figura suspirans*[45] and a motif of 'falling seconds', supplemented by a descending chromatic *figura parrhesia* motif in the alto. (Example 4)

Now the music is dominated by grief, sorrow, and misfortune.[46] A change occurs once more in the sixth bar with the introduction of a *figura kyklosis* or *figura circulatio* in the alto[47] (Example 5), which enriches the fabric with its new nuances. Thus with the help of symbolic motifs that are organically woven into the very fabric of the music, the composer brings us closer to the meaning of the chorale.

The First Commandment, which Luther in his Great Catechism deems to be the most important, is interpreted in the second verse of the chorale:

> Ich bin allein dein Gott, der Herr,
> kein Götter sollst du haben mehr,
> du sollst mir ganz vertrauen dich,
> von Herzens Grund lieben mich,
> Kyrieleis.
>
> [I alone am your God, your Lord,
> No other Gods shall you have,
> You shall put your whole trust in me,
> Love me from the depth of your heart.
> Kyrieleis.]

There is much evidence that precisely these lines were the starting point for Bach's plan for the whole composition.

It is interesting to note that where the text speaks of "the love of God that comes out of the depths of the heart," Bach interrupts the *cantus firmus* (bars 48–50) and increases the number of repetitions from ten to twelve. The motivation for this change can best be seen as an attempt to create a connection between the Old and New Testaments, whose interpreters in the new Christian congregations were the twelve Apostles. And Bach will follow the same intention to connect, through the symbolic comparison of the numbers ten and twelve, the Mosaic Law and the teachings of Jesus again in the Eucharist part, the conclusion of the chorale prelude section of the *Clavierübung III*.

It is well known that in the New Testament the Commandment of Love takes on decisive significance: "Jesus answered . . . you shall love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength" (Mark 12:30). The composer underlines the importance of this commandment with the help of special methods that are introduced at key points. When the word *Herz* [Heart] appears in the chorale text, Bach highlights it (in bars 46-47) with two groups of 16th notes, and when the words *lieben mich* [love me] appear in bars 51–52, he uses the *heterolepsis*, a musical rhetorical figure that creates the effect of two being united in one.[48] Thus the composer uses musical means to portray the tangible content of the text. (Example 6)

Numerology plays an especially important role in the chorale prelude *Dies sind die heil'gen zehn Gebot'*.[49] The chorale prelude has 60 bars (corresponding to the six days of creation). A pause first appears in the pedal after 37 notes, which can be seen as the Labarum, or *Chi-Ro* Christogram.[50] The next pause comes after 60 further notes (another apparent reference to the creation of the cosmos). The subsequent melodic structure of the pedal line up to the pedalpoint in bar 29, which creates the illusion of a reprise, contains 47 notes. In the first bar, after the pause (bar 21), we encounter a leap of two octaves in the pedal, covering the entire range of the pedal, which is very unusual. (Example 7)

It is well known that Bach often referred to the Psalter, as did Luther in his Catechism. Psalm 47:2 states: "For the LORD, the Most High, is awesome, a great king over all the earth." The text of the *cantus firmus* quoted at the point of the two octave leap is: *Kein Götter sollst du haben mehr* [No other Gods shall you have]. Michael Radulescu suggests that we should see the leap as an original "musical comment" by the composer, which, though hidden behind the abstract numerological symbolism, is to be understood as a distinct statement: "I am larger than life, I am your King."[51]

The subsequent phrase in the pedal contains 147 notes. When Luther in his Catechism explains the meaning of the Ten Commandments, he quotes Psalm 147:11: "But the LORD takes pleasure in those who fear him, in those who hope in his steadfast love." By introducing the number 147 into his chorale prelude *Dies sind die heil'gen zehn Gebot'*, Bach is underlining the actuality of the psalmist's words quoted by Luther for the theme of the Decalogue.

The final notes of the *cantus firmus* in the second tenor are accompanied by a descending counterpoint in the first tenor, beginning with a chromatic *figura parrhesia*, which contains 12 notes (bars 57–60). The last phrase in the pedal consists of 14 notes (BACH), which is preceded by two short phrases of five notes each.

After all the above we can concur with those experts who suggest that the basic idea behind this work is love for the Creator.[52] Additional confirmation for the correctness of this view is the number 315, which is the sum of all notes in the pedal. Albrecht Clement considers this number to be the numerical expression of the phrase *Du sollt Gott, deinen Herren, lieben*. [Literally: "You should love God, your Lord" as a direct rendering of the Luther Bible's translation of Mark 12:30.][53]

Characteristically, Bach introduces this summons in the title of Cantata 77, whose opening chorus is built upon the theme of the chorale prelude *Dies sind die heil'gen zehn Gebot'*, viz.

Du sollt Gott deinen Herren lieben
24 + 73 + 59 + 49 + 65 + 45 = 315

The manual fughetta on the chorale *Dies sind die heil'gen zehn Gebot'*, written in the form of a gigue, is also dominated by the number 10, although it also contains other interesting numerical allusions.

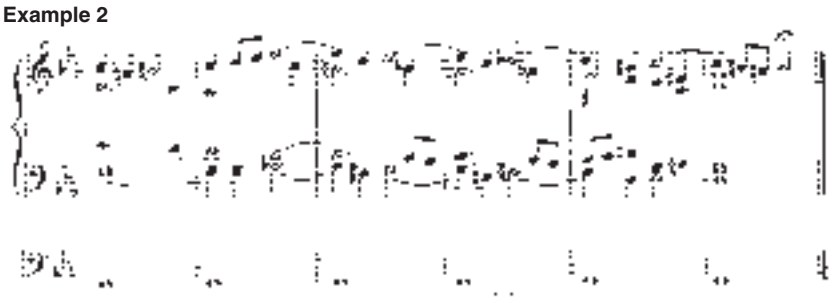
First of all, it is a four-voice fughetta and the theme is presented ten times (4×10 = 40). The same relationship can be seen in the exposition of the fughetta: ten bars of four dotted eighth notes (10×4 = 40). The theme runs for ten beats. Thus we see the same relationship in the exposition: 10×4 = 40. The theme in the second exposition is presented in inversion and in a shortened form (six beats). The relationship is correspondingly 6×4 = 24. And finally, the last two stretti quotations of the theme (bars 32–35) give us the relationship 8×2 = 16, as the theme here is eight beats long. It is not difficult to see that the addition of 24 and 16 results in the key number 40, which is apparently a reference to the Jewish people's forty years of wandering in the wilderness before being given the stone tablets with the Decalogue.

The theme has a most interesting structure. It consists of two parts: the main melody of the chorale emerging from a repeated ostinato note and its leaps (six beats), and stepwise motifs over a fifth (four beats). (Example 8) Christoph Albrecht described the theme figuratively as a musical picture of a "raised warning forefinger."[54] But numerology allows us to find deeper connotation in it. The second part of the theme contains 14 notes (BACH). One could consider this as a mere coincidence, were it not that we meet the melody with this numerical symbol again at other central formative points in this little piece.

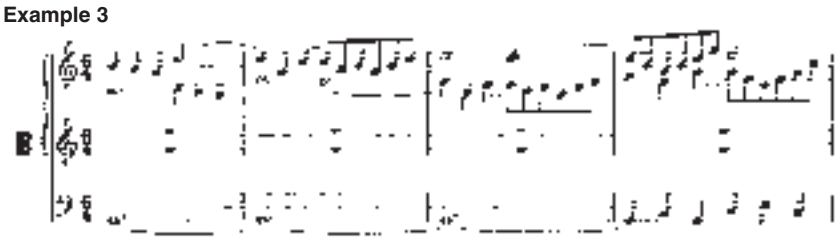
This second part of the melody occurs as a theme in its own right in the 41st beat of the fughetta (JSBACH), where it fills out the eleventh bar at the junction between the two expositions. Again, this melody is consistently developed in the 14 bars that separate the two concluding quotations of the theme from the second exposition. And we would finally add that the number 14 is underlined by the sum total of all the beats in this chorale prelude: they all add up to 140.

Without a doubt it would be the very height of negligence for a performer who is looking for an authentic interpretation to ignore the manifold recurrence in the composition of the name of its creator. The composer of the manual version of *Dies sind die heil'gen zehn Gebot'* obviously had definite reasons for weaving his name again and again into the musical fabric of the work.

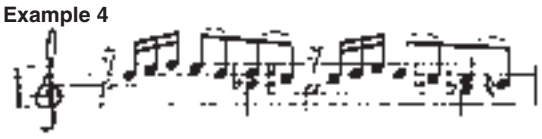
Example 2



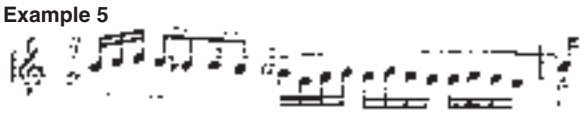
Example 3



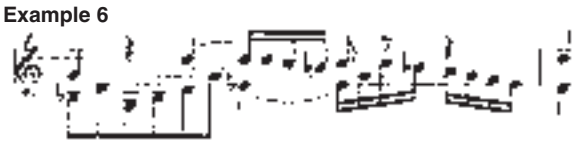
Example 4



Example 5

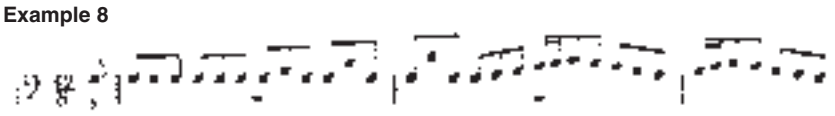


Example 6



Example 7

Example 8



Let us boldly assume that in this work Bach wishes to embody the idea of the divine Commandments as the cornerstone of his own life. The tenfold repeated theme of the chorale *Dies sind die heil'gen zehn Gebot'* and the numerical symbol 40 harbor the idea of the Commandments. Their importance for Bach personally is attested to by the composer's repeated use of the symbol 14. ■

This article will be continued.

Notes

1. This article was first published in the magazine *Muzikalnaya Akademiya* [Music Academy], No. 1, pp. 142–151; No. 2, pp. 144–151 (Moscow, 2006). The translation into English, made by Joseph Blomley from the German version of the original, has been revised by Hywel Duck.

2. J. Kuhnau was from 1684 to 1722 organist at St. Thomas Church in Leipzig. During his lifetime two volumes of his *Neuen Clavier-Übungen* (New Keyboard Exercises) were published, each containing seven suites.

3. The 20th century saw the development of a general tendency to play the work in a shortened form: the Prelude in E-flat Major, 10 large chorale preludes, and the Fugue in E-flat Major. A similar suggestion was first made by Fritz Heitmann in 1927.

4. A complete list of all the theological works in Bach's library can be found in Robin A. Leaver, *Bachs theologische Bibliothek* (Neuhausen/Stuttgart, 1983).

5. Johann Sebastian Bach, *Clavier-Büchlein für Anna Magdalena Bach*, 1722; preserved in fragmentary form.

6. Martin Luther is the author of 37 hymns, among them such famous hymns as "Ein feste Burg ist unser Gott" [A mighty fortress is our God].

7. Georg Rhau (1488–1548) was a composer, musical theorist, and music publisher. His anthology *Symphoniae iucundae* was published in 1538 in Wittenberg.

8. Quoted in *Lob und Preis der Musika. Worte von Martin Luther* (Berlin, 1961), p. 12.

9. Ibid., p. 4.

10. Quoted in Martin Luther, *Briefe, Sendschreiben und Bedenken*, 4. Theil, p. 181 (Berlin, 1827) (in German: "Und ich urteile rundheraus und scheue mich nicht zu behaupten, daß es nach der Theologie keine Kunst gibt, die der Musik gleichgestellt werden könnte. Sie allein bringt nach der Theologie das zuwege, nämlich ein ruhiges und fröhliches Herz." In Martin Luther, *Die Briefe* [in *Luther Deutsch. Die Werke Martin Luthers*, Band 10, Stuttgart, 1959], p. 219).

11. English translation by Robin A. Leaver, *Music and Lutheranism*, in John Butt, editor, *The Cambridge Companion to Bach* (Cambridge, 1997), p. 40.

12. See Friedrich Smend, *Luther und Bach* (Berlin, 1947), in *Bach-Studien* (Kassel, 1969), pp. 153–175.

13. Johann Sebastian Bach, *Vorschriften und Grundsätze zum vierstimmigen spielen des General-Baß oder Accompagnement* (Leipzig, 1738), Cap. 2. The majority of modern specialists are of the opinion that the author of this treatise is indeed J. S. Bach—see Hans-Joachim Schulze, *Studien zur Bach-Überlieferung im 18. Jahrhundert* (Leipzig & Dresden, 1984), pp. 125–127—even though the above quotation essentially repeats an opinion that was earlier circulated by F. E. Niedt (1674–1708). See Friedrich Erhard Niedt, *Musicalische Handleitung* (Hamburg, 1710), I. Teil, Cap. II.

14. Annotated translation by Pamela L. Poulin, *J. S. Bach's Precepts and Principles For Playing the Thorough-Bass or Accompanying in Four Parts* (Oxford, 1994), pp. 10–11.

15. Quoted in Martin Petzoldt, *Johann Sebastian Bach. Ehre sei dir Gott gesungen* (Berlin, 1988), p. 87.

16. The Calov Bible was discovered in the USA and made public for the first time at the Heidelberg Bachfest of 1969. The signature of the composer is to be seen on the frontispiece: "*J. S. Bach, 1733.*" It is held today in the Ludwig Fuerbringer Library of Concordia Seminary, St. Louis, Missouri.

17. In the modern editions of the Bible, First Chronicles, chapter 28, verse 21.

18. Calov Bible I, 1; Sp. 2063/2064.

19. In the modern editions of the Bible, First Chronicles, chapter 25.

20. Albert Schweitzer, *J. S. Bach* (New York, 1966), volume I, p. 167.

21. Ibid., p. 169.

22. The *Societät der musikalischen Wissenschaften* was founded in 1738.

23. In a letter dated the 17th of April 1712, addressed to the Prussian Mathematician Christian Goldbach (1690–1764), Leibnitz said the following about music: "Musica est exercitium arithmeticae occultum nescientis se numerare animi" [Music is the hidden arithmetical activity of the soul, which is itself not aware that it is working with numbers].

24. The idea of the universe as perfect harmony suggested itself to Pythagoras (6th century BC) after he had discovered that the perfect musical intervals—octave, fifth, and fourth—can be produced by dividing a resonating string in the proportions 1:2, 2:3, and 3:4. The philosopher noticed a connection between the well-ordered natural world and the order within the world of harmonics, an order which could be expressed arithmetically in the ratio of simple numbers. He came to the conclusion that the whole cosmos was built upon mathematical relationships. This conviction lead him to his theory of heavenly music—the so-called "Harmony of the Spheres."

25. Friedrich Smend, *Johann Sebastian Bach bei seinem Namen gerufen* (Kassel, 1950).

26. The first researcher to investigate the question of numerology in Bach's works was Wilhelm Werker (*Studien über die Symmetrie im Bau der Fugen und die motivische Zusammengehörigkeit der Präludien und Fugen des Wohltemperierten Klaviers von J. S. Bach*, in *Bach-Studien*, Band I, Leipzig, 1922). Further investigations of this subject were made by Martin Jansen (*Bachs Zahlensymbolik, an seinen Passionen untersucht*, in *Bach-Jahrbuch* 34, Leipzig, 1937, pp. 96–117) and Friedrich Smend (*Luther und Bach*, Berlin, 1947).

27. The titles of some of these studies speak for themselves: Ursula Kirkendale, "The Source for Bach's 'Musical Offering': The 'Institutio Oratoria' of Quintilian," in *Journal of the American Musicological Society*, XXXIII/1, pp. 88–141, 1980; Hans-Eberhard Dentler, *Johann Sebastian Bachs "Kunst der Fuge." Ein pythagoreisches Werk und seine Verwirklichung*, Mainz, 2004 [Bach's *The Art of the Fugue* – A Pythagorean Work and its Realization].

28. Schweitzer, *Bach*, volume I, p. 3.

29. In German: "Was das Choral-Spielen betrifft, so bin ich von meinem annoch lebenden Lehrmeister, dem Herrn Capellmeister Bach so unterrichtet worden: daß ich die Lieder nicht nur so oben hin, sondern nach dem Affekt der Worte spiele." In *Acta die Org.-Wahl betr.*, Bd. I C, Nr. 7, fol. 6, Marktkirche Halle; quoted in Philipp Spitta, *Johann Sebastian Bach* (Leipzig, 1930 [5th unaltered edition, 1962]), Bd. I, p. 519.

30. Johann Mattheson summed up the thoughts of many baroque musicians who subscribed to the Doctrine of the Affections, in *Der vollkommene Capellmeister* (Hamburg, 1739); facsimile (Kassel, Bärenreiter-Verlag, 1954), pp. 16–20.

31. Andreas Werckmeister, *Musikalische Paradoxal-Discourse* (Quedlinburg, 1707), chapter 19.

32. Werckmeister also identifies 6 as the "animal number" ["tierische Zahl" in German].

33. German text: *Naumburger Kirchen- und Schulordnung*, 1537.

34. Bach earlier used a similar idea in his treatment of the chorale *Christ ist erstanden* [Christ is risen] (BWV 627) from the *Orgelbüchlein*. In this composition based on one chorale melody, there are three complete musical fragments.

35. Hermann Keller, *Die Orgelwerke Bachs* (Leipzig, 1948), p. 200.

36. As already noted, Werckmeister saw the number 6 as a symbol of the Third Person in the Godhead. Zeros served traditionally to intensify the symbolic contents of a given number. Of interest is the following excerpt from a handwritten manuscript from the monastery of Salem (15th century): "Every number originates from the number one, one though, springs from nought. It should be known that nought is a great holy sanctuary: it, which has neither beginning nor end, is a picture of HIM. And just as the nought neither is added to nor taken away from, HE neither grows nor diminishes. And while added noughts increase a number tenfold, HE does not increase by merely tenfold but by a thousand fold. To put it more precisely, HE brings into being from nothingness, keeps all things in being and guides them." In Harry Hahn, *Symbol und Glaube im I. Teil des Wohltemperierten Klaviers von Joh. Seb. Bach* (Wiesbaden, 1973), pp. 46–47.

37. Six as a numerical symbol often occurs within various of J. S. Bach's cyclic works: the six Brandenburg Concerti, the six Trio Sonatas for Organ, the six Sonatas for Violin and Harpsichord, the six Schübler Chorales and others. Typically such large scale six-fold cyclic works are not uncommon among the works of other baroque composers, such as Pachelbel, Handel, and others.

38. Interesting observations on the use of numerical symbols in these chorale preludes can be found in Albert Clement, *Der dritte Teil der Clavierübung von Johann Sebastian Bach* (Middelburg, 1999), pp. 57–58.

39. Author: Nikolaus Decius, 1539.

40. This chorale prelude has many of the characteristics of a composition on the same theme by J. G. Walther: *Harmonisches Denck- und Danckmahl, bestehend aus VIII. Vor-Spielen über das Lied: Allein Gott in der Höh sey Ehr* (Augsburg, 1738), Vers. 5.

41. The main motif of this *fugato* is very similar to the theme of another organ work by J. S. Bach, also written during his Leipzig years: the Fugue in C major (BWV 547/2).

42. Melody, 12th century; text, Martin Luther, 1524.

43. According to Spitta, the canonic execution of the chorale melody serves as a "Bild strengster Gebundenheit" [picture of the strictest connotations]; Philipp Spitta, *Johann Sebastian Bach* (Leipzig, 1930), Bd. II, p. 695.

44. We should be reminded that, according to Werckmeister, five is a symbol of "sensual Mankind." He also treats five as the number of the "evil ghosts" ["die böse Geister Zahl" in German]; see Werckmeister, *Musicalische Paradoxal-Discourse*, chapter 19.

45. According to Walther this is a pause, followed by three notes of equal length; see Johann Gottfried Walther, *Musicalisches Lexicon* (Leipzig, 1732), p. 244.

46. Bach gladly used the motif of 'falling seconds' and the *figura parrhesia* in his works on the Passion, for instance in the chorale prelude *O Lamm Gottes, unschuldig* (BWV 618) and in *Christus, der uns selig macht* (BWV 620) from the *Orgelbüchlein*.

47. According to Russian scholar Boleslav Javorsky (1877–1942), the *figura circulatio* in works of J. S. Bach serves as a symbol of the Cup of Sorrows. See Vera Borisovna Nosina, *Simvolika muzyki I. S. Bacha* [*Symbolism in the music of J. S. Bach*] (Tambov, 1993), p. 28.

48. According to Walther a *figura heterolepsis* is a sequence of two mutually complementary voices; see Johann Gottfried Walther, *Praecepta der Musicalischen Composition* (Weimar, 1708, Jenaer Beiträge zur Musikforschung, Bd. 2, Peter Benary, editor, Leipzig, 1955), p. 155. Further variations on the use of the *figura heterolepsis* can be found in Olga Zacharova, *Ritorika i zapadnoevropejskaja muzyka XVII–pervoj poloviny XVIII v.*, [*Rhetoric and the western European music of the 17th–first half of the 18th centuries*] (Moscow, 1983), p. 76.

49. The original reflections on the use of numerology and musical rhetorical figures in this composition are to be found in Michael Radulescu, *Theologische Aspekte im Orgelwerk Johann Sebastian Bachs*, in *Alte Musik und Musikpädagogik* (Hrsg. Krones, Hartmut) (Vienna, 1997), pp. 273–292.

50. The Labarum is a Christogram, constructed by the superimposition of two letters of the Greek alphabet: X or χ (Chi) = 22, and P or ρ (Rho) = 15. The transliteration to the Latin alphabet is: JCHR = 37 (9 + 3 + 8 + 17).

51. Radulescu, *Theologische Aspekte*, in *Alte Musik und Musikpädagogik*, p. 288.

52. A similar opinion is presented in the following works: Philipp Wolfrum, *Joh. Seb. Bach* (Berlin, 1906), p. 167; Hermann Keller, *Die Orgelwerke Bachs*, p. 203.

53. Clement, *Der dritte Teil der Clavierübung*, p. 133.

54. Christoph Albrecht, *J. S. Bachs "Clavier Übung. Dritter Theil." Versuch einer Deutung*, in *Bach-Jahrbuch* 55 (Leipzig, 1969), p. 57.

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Fiseisky has given concerts in more than 30 countries. In the Bach anniversary year of 2000 he played J. S. Bach's entire organ works, twice in the context of EXPO 2000 in Hannover, and once in a single day in Düsseldorf as a Bach marathon.

Sought after as a juror in international competitions, he has directed seminars and masterclasses in Europe and the USA. He is the dedicatee of numerous compositions, including works by Mikhail Kollontai, Vladimir Ryabov, Milena Aroutyunova, and Walther Erbacher. A musicologist, he has edited anthologies of organ music of Russia and of the Baltics (Bärenreiter-Verlag). He has many recordings to his credit, including the complete organ works of J. S. Bach.