

# Clavierübung III of J. S. Bach

## Theology in Notes and Numbers, Part 3

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### Prelude in E-flat Major (BWV 552/1)

The prelude surprises us with its élan. It is an example of a ceremonial introduction and is written in a style whose origins reach back to the works of the French composer Jean-Baptiste Lully. Many features of Bach's prelude are reminiscent of the "Overture" of the *Composizione musicale, Parte Seconda, I* (Example 24), written by the virtuoso German harpsichord player, Konrad Friedrich Hurlbusch (c. 1696–1765),<sup>84</sup> who visited Bach in Leipzig in 1734.

When one examines the motifs that form the basis of the three "characters" of Bach's *Prelude in E-flat Major* with care, it is not difficult to see that they are in fact variations on one and the same motif—a fifth filled out with material from the diatonic scale. (Example 25) This motif appears in the dotted part as a *tirata*, in the sections with a reduced texture (bars 32–50 and 111–129) as a flowing melody, and finally in the "driven" parts as an energetic scale. Let us call these different structures A, B, and C.

The form of this composition is particularly interesting. It is constructed as a rondo, and is the only example of this form in the whole of Bach's organ works. The dotted parts are given the function of the refrain, while the "reduced" and "driven" parts function as the episodes. These three main structures, taking up as they do the whole length of the work (205 bars), are distributed in very remarkable proportions. The ceremonial dotted music (A) lasts for 100 bars (naturally taking bars 50 and 129 into account), the B music lasts for 34 bars (17 + 17), and the C music 71 bars.

These numbers are at first glance astonishing. One could naturally regard them as coincidental, were they not attested to by the hidden meaning given them by the composer himself: the work opens with music A, and music C first occurs in bar 71. Understandably we must examine these numbers very carefully, and to this end we have created a small table that reflects the development of the musical form (Figure 3).

It appears from this table that the prelude is dominated by the monumental character (A) that represents a rich five-voiced texture of 100 bars. The symbolism of the number 100 underlines, as it did in the greater chorale prelude *We believe*, the idea of the One God. When one totals the number of bars in the first and second, the third and fourth, and finally the fifth and sixth appearances of A, one sees the following picture:

$$100 = \frac{33}{(32+1)} + \frac{34}{(20+14)} + \frac{33}{(1+32)}$$

A better expression of the equality of the three Persons of the Holy Trinity could hardly be imagined. The effect is undoubtedly strengthened by the placing of A at the beginning, in the middle (bars 98–111), and at the end of the composition. The structures that surround the middle part are equal in amount, and the middle part itself consists of 14 bars (BACH).

The episodes B and C are given an altogether much more modest role in the prelude. Together they take up approximately one half of the work (17 + 17 (B) and 71 bars (C)).<sup>85</sup> Additionally they are less prominent with regard to the number of voices compared to the main structure. The episodes B and the first and last appearances of C are in three voices. This alone is enough to make it difficult to equate them with the second and third Persons of the Holy Trinity.

Another facet is equally interesting. The theme of the fugato (episode C) is

set in multiple counterpoint. The *predestination motif* occurs in a veiled form in the bass voice of this polyphonic texture, while the countersubject is based on the motif for *understanding the Divine Will*.<sup>86</sup> And one further observation: The total number of bars in the work is 205, which is the multiple of 5 (the number for Mankind) and 41 (JSBACH).<sup>87</sup>

### Fugue in E-flat Major (BWV 552/2)

The fugue that crowns the whole cycle is also worked out in three figurative spheres. It is often referred to as a triple fugue, which is incorrect since a triple fugue signifies the combining of all three themes—which does not happen in Bach's *Fugue in E-flat Major*. The first part, with its 4/2 rhythm (the first fugue), is reminiscent of the linear compositional style of Palestrina. The fluent lines of the five-voiced texture flow majestically and gradually fill out the whole tonal space. This is the so-called *stylus gravis* or *stylus ecclesiasticus*, known to us from other works of Bach, especially from the *Confiteor*, *Credo* and *Dona nobis pacem* from the *Mass in B minor*. The theme of the *Fugue in E-flat Major* bears an evident resemblance to the theme of the fugal part of the E major prelude by Dietrich Buxtehude, BuxWV 141. (Example 26)

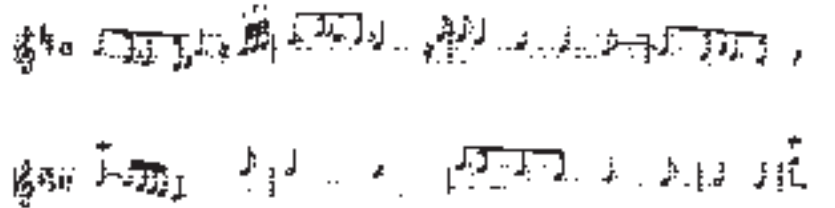
The second part of the composition (the second fugue) displays a lively character and contains elements derived from dance music. It is in fact based on the intervals of the melodic progression of the first fugue. Both themes are combined in the second half of the fugue (from bar 59 onwards). This part clearly quotes the final chorus *Hilf deinem Volk* [Help your people] from the cantata *Gelobet sey der Herr, denn er hat erhöht* [Praise to the Lord, for he has heard], written by the South-German composer and native of Nuremberg, Johann Krieger (1652–1735).

And finally, from bar 82 onwards, the third theme, in 12/8 rhythm, enters into the flow of the music. It is based on a "falling" fifth filled out in a very lively manner. The final part of the composition (the third fugue) begins at this point. The unbroken flow of diatonic *sextolen* creates the illusion of *accelerando*. One is plunged into a general atmosphere of joyful expectancy and upon this wave of world-encompass-

Figure 3

Structure	A	B	A	A	C	A	B	A	C	C	A
Bars	32	17	1	20	27	14	17	1	30	14	32

Example 24



Example 25



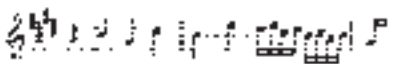
ing joy the main theme (the theme of the first fugue) appears as a great hymn symbolizing the greatness, the jubilation, and the glory of the Creator.

What does this short theme of just seven notes actually represent?

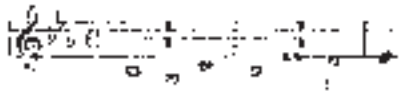
Bach's genius enabled him to portray in it the central idea of Christianity: the Redemption through the suffering of God-made-Man upon the Cross. Three symbolic motives which together form the theme are, as it were, interlinked (notes 1–4, 3–5, and 4–7). (Example 27)

The first motif is a *figura hypotyposis* and represents the Greek letter  $\chi$  (Chi) symbolizes the Cross. The second motif, which we have already met in the chorale *Christe, aller Welt Trost* [Christ,

Example 26



Example 27



consolation of all the world] we could call the *consolation motif*, and finally the third motif, which we have already met more than once, is the *predestination motif*. Ignoring the inversion of the first two notes, the theme of the fugue corre-

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sponds completely to the melody of the first line of the chorale *Was mein Gott will, das g'scheh' allzeit*.<sup>88</sup>

The main theme appears in all three fugues, albeit in different rhythms. This naturally begs the question for the performer: what is the correct metrical pulse that allows this symbolic-laden theme to appear naturally in the different parts of this composition?

Let us examine the special features of its construction more closely.

The first fugue consists of 36 bars (72 half-bars), the second of 45 bars, and the third once again of 36 bars (72 half-bars). Apart from the fact that these numbers impress on their own: (3 + 6) + (4 + 5) + (3 + 6) = 27, they indicate the symmetrical construction of the work as a whole. When choosing the tempi, one must probably take this feature into account. Thus the beat in the two outer parts should be the same, while the beat in the middle part should reflect the rule of *proportio sesquialtera*. This means that three pulses should take up the same time as two pulses in the surrounding parts. In other words, a half-note in the first fugue should correspond to a dotted half-note in the second part.

There is a cadence in B-flat major in the middle of the second fugue, just after the reappearance of the main theme. This divides the fugue into two exactly equal parts of 58.5 bars each.<sup>89</sup> It is interesting to note that when we divide the sequence 72–45–72 by 9, we arrive at these same digits: 8–5–8, albeit in a different order. This sequence reflects the proportions of the three parts of the fugue. These proportions are, as we have already seen, very close to the *proportio divina* (8 + 5) : 8 = 1.625, whereas 8 : 5 = 1.6.

Does it not seem as if the composer is trying in a symbolic way to express the mystery of the Holy Trinity, its unity of substance, and its indivisibility?

Let us once again examine the main theme. Its exposition in the three parts of the fugue gives us the following proportions: 12–6–9.<sup>90</sup> Already the first answer occurs with the notes E-flat, D, and G, which also form the basis of the second theme. This motive also dominates in the third part.

What is the significance of this sequence of notes?

This symbolic motive always seems to occur in Bach when he wishes to praise the unfathomable greatness of the Creator, and it symbolizes nothing less than *Soli Deo Gloria*.<sup>91</sup>

Clavierübung III as a cyclical form

We have now examined one by one all the sections of the *Clavierübung III* and analyzed their contents and structures. This has shown us that the work is a veritable compendium of artistic forms and embodies all the then-available techniques of organ playing, along with the achievements of the national schools of composition, both past and present.

Let us now examine how the various parts of the work relate to one another (see chart, Figure 4).

As we see, the 27 parts of the composition display the following most remarkable proportions: 21 chorale preludes, four duets, and the *Prelude and Fugue in E-flat Major*. These proportions reflect the structure of the New Testament, consisting as it does of 27 books: the four Gospels, the 21 Letters, the Acts of the Apostles, and the Revelation of St. John.

Clearly the Prelude and Fugue are intended to form an overreaching arch encompassing the whole cycle. The Prelude sets the general tone and the Fugue ties it all together and rounds it off. The “Chorale Block” is based on the ternary (number) system. The *Kyrie* and *Gloria* consist of three sections, each comprising three parts, giving a total of nine parts, while the first two sections form a sub-group of their own, comprising six compositions. The following twelve chorale preludes take up the theme of the Catechism and are likewise divided into two sub-groups which in turn comprise six compositions in three pairs:

- 1) The Ten Commandments–The Creed–The Lord’s Prayer
- 2) Baptism–Confession–Eucharist
- The structure of each sub-group is

similar. In the greater chorale preludes at the beginning and end of the first of these sub-groups, the *cantus firmus* appears in canon, whereas at the beginning and end of the second it appears in the pedal. In the center of each sub-group is a greater chorale fantasy in *organo pleno*.

The order of the “Chorale Block,” resting as it does on a mathematical framework based on the numbers 3, 6, and 9, undoubtedly serves a definite purpose. It is certainly no coincidence that the composer begins the second section at bar 369, or that the compositions within this section bear the time signatures 3/4, 6/8 and 9/8.

As we have mentioned, the combination of the three numbers 3, 6, and 9 is also present in the duets (as the sum total of their bars). The same is true of the fugue, where the main theme occurs 27 times in the three sections, giving the combination 12+6+9—another obvious reference to the numbers 3, 6, and 9.

What is the secret hidden in the connection of these three numbers 3, 6, and 9? Why did the composer constantly weave this combination into his work, as if to underline their steadfast cohesion over and over again?

Let us open our Bible at the fifteenth chapter of the Gospel according to St. Mark. There we read:

It was the third hour when they crucified him. . . . At the sixth hour darkness came over the whole land until the ninth hour. And at the ninth hour Jesus cried out in a loud voice, “Eloi, Eloi, lama sabach-thani?”—which means, “My God, my God, why have you forsaken me?” (Mark 15:25, 33–34)

These words from the Gospel probably contain the answer to our question.

The themes and the choice of keys for the pieces are important dramatic elements in the *Clavierübung III*. The keys of the chorale preludes are distributed as follows: eleven major keys and ten minor keys. The themes of the major chorale preludes display a stepwise progression, whereas those of the minor chorale preludes are dominated by a motif built on a fifth. The conception of the keys of the “greater” chorale preludes in the major keys rests upon the notes B-flat and G. Together with the *Prelude in E-flat Major* they build a major chord, whose outer notes (E-flat and B-flat) mark out a tonal space which is gradually filled out with the keys of the “lesser” preludes.

In contrast to the major chorale preludes, the arrangement of the chorale preludes in minor keys is based on a section of the scale. As such, the “greater” chorale preludes do not quit the tonal space of the major third C–E, while the framework for the “lesser” chorale preludes is extended to an augmented fourth (= diminished fifth) within the limits C–F-sharp.

And so the tonal plan for the “Chorale Block” of the composition is based on the fifth E-flat–B-flat and the major third C–E. Moreover, with the very first tirata (run) of the Prelude (B-flat–A-flat–G–F–E-flat), Bach underlines the important role of the stepwise progression within a fifth in the *Clavierübung III*. The inversion of this motif in the first fugue is built into the nucleus of the countersubject, and in the penultimate bar of the composition it is quoted by the composer in the pedal, as if to remind us of its importance.

Characteristically, he used the same compositional method (even the same keys!) in another cycle of chorales in his later works, in the *Sechs Chorälen von verschiedener Art* (BWV 645–650).<sup>92</sup>

- 1st chorale – E-flat major
- 2nd chorale – E minor
- 3rd chorale – C minor
- 4th chorale – D minor
- 5th chorale – B-flat major
- 6th chorale – G major

The intervals of a fifth and a third can be mathematically expressed by the numbers 5 and 3. When we examine possible relationships between these numbers more closely, we see that they in fact express the *proportio divina*: 5 : 3 = 1.6, and (5 + 3) : 5 = 1.6.

Figure 4. Clavierübung III as a cyclical form		
Praeludium		pro Organo pleno
KYRIE	<i>Kyrie, Gott Vater in Ewigkeit</i> <i>Christe, aller Welt Trost</i> <i>Kyrie, Gott heiliger Geist</i>	C. f. in soprano C. f. in tenor C. f. in bass Cum Organo pleno
	<i>Kyrie, Gott Vater in Ewigkeit</i> <i>Christe, aller Welt Trost</i> <i>Kyrie, Gott heiliger Geist</i>	3/4 manualiter 6/8 manualiter 9/8 manualiter
GLORIA	<i>Allein Gott in der Höh' sei Ehr'</i> <i>Allein Gott in der Höh' sei Ehr'</i> <i>Allein Gott in der Höh' sei Ehr'</i>	Trio F major Trio G major Trio A major manualiter
ZEHN GEBOTE	<i>Dies sind die heil'gen zehn Gebot'</i> <i>Dies sind die heil'gen zehn Gebot'</i>	C. f. in canon manualiter
CREDO	<i>Wir glauben all' an einen Gott</i> <i>Wir glauben all' an einen Gott</i>	in Organo pleno manualiter
VATER UNSER	<i>Vater unser im Himmelreich</i> <i>Vater unser im Himmelreich</i>	C. f. in canon manualiter
TAUFE	<i>Christ, unser Herr, zum Jordan kam</i> <i>Christ, unser Herr, zum Jordan kam</i> <i>Aus tiefer Not schrei' ich zu dir</i> <i>Aus tiefer Not schrei' ich zu dir</i>	C. f. in the pedal manualiter in Organo pleno manualiter
ABENDMAHL	<i>Jesus Christus unser Heiland</i> <i>Jesus Christus unser Heiland</i>	C. f. in the pedal manualiter
Duet I		3/8 E minor
Duet II		2/4 F major
Duet III		12/8 G major
Duet IV		2/2 A minor
Fugue		pro Organo pleno

The stepwise movement over the range of a major third in the major keys in the chorale preludes *Kyrie – Gloria – Decalogue* obviously symbolizes the divine glory and the beauty of heaven. This motif has major intellectual significance within the overall context. Allow me to boldly interpret it as a tonal symbol for the Holy Trinity. The interval of a perfect fifth,<sup>93</sup> which is the basis of the tonal plan for the parts of the cycle in major keys, is clearly meant to portray the concord and fundamental purity of the heavenly Jerusalem.

The music of the chorales on *Credo – Lord’s Prayer – Baptism – Confession – Eucharist*, all of which are in minor keys, expresses the internal world of one who is aware of his own sinfulness. Characteristically, the space for the tonal development within this cycle is circumscribed by the augmented fourth, the musical symbol for evil.<sup>94</sup> At the same time the interval of a perfect fifth in the themes of these chorales serves as a reminder of the essentially divine nature of the soul and of the inner harmony that forms the basis of its being. These aspects are also the foundation for the selection of keys for the greater chorale preludes—they are built on the keys of C–D–E, forming the motive of the Holy Trinity.

Typically enough, we have an indication that the suggested subdivision of the 21 chorale preludes is so appropriate since we meet up again with the *proportio divina*: 3 parts (*Kyrie – Gloria – Decalogue*) – 5 parts (*Credo – Lord’s Prayer – Baptism – Confession – Eucharist*).

Returning to the duets, we note that the fifth plays a major role in their expositions. Major and minor keys alternately fill out the range E–A, leading to the beginning of the theme of the fugue from B-flat. Such a tonal plan leaves no doubt that this is the justification for their presence in this part of the cycle.<sup>95</sup>

Looked at under this aspect, we can see that the work is conceived as a single composition with three centers of gravity, each of which is circumscribed by a fifth. In the first case it is the perfect fifth E-flat–B-flat in connection with major keys; in the second it is the augmented fourth C–F-sharp (which is harmonically also a diminished fifth) in connection with minor keys; while in the third, it is the diminished fifth E–B-flat in connection with both major and minor keys. This detailed and carefully planned tonal layout is a further witness to the compositional unity of the *Clavierübung III*. It is obvious that the individual parts of this work complement one another organically.

That is perhaps sufficient regarding the relationships between the various parts of the cycle. But what is the logic behind the development within each

part? Was it the intention of the writer that the parts be played *in toto*, or, as is common today, only in excerpts? And finally, the most important question of all: Can one speak of a continual development within the whole cycle, and is it practical to play the whole work without any cuts, especially in view of its enormous size?

I consider this to be a valid question. We have thus far spoken of the tonal plan of the *Gloria* part, of the tonal and rhythmic connections between the lesser chorale on “*Wir glauben*” and the greater chorale on “*Vater unser*,” and of the related motifs of the lesser chorale on “*Vater unser*” and the greater chorale on “*Die Taufe*.” When one tries to ascertain the role of the lesser chorales within the overall dramatic structure, one is unavoidably drawn to a comparison with the art of rhetoric, and especially with that of the art of the sermon. And according to the testimony of Bach’s friend, the Master Johann Abraham Birnbaum, who taught rhetoric at the University of Leipzig, Bach was himself well acquainted with the rules of rhetoric.

In fact, one can imagine the whole composition as a sermon on the fundamentals of the Christian faith,<sup>96</sup> a sermon in which the greater chorales—parallel to the parts of Luther’s Great Catechism—should reveal their essential nature. In this scheme, the laws of rhetoric would deem the lesser chorales to be essential. They represent the function of “digressions,” which allow the hearer now and again a necessary moment of reduced concentration, and thus allow the speaker to maintain the attention of his hearers for the substance of the sermon.

Think for example of *Pictures at an Exhibition* by Modest Mussorgsky. In this work the main parts of the composition are wonderfully bound together by the so-called “Promenade,” which always appears in a different guise: this time happy, then restrained, then mournful and yet again charming. Each time it appears, it prepares the way for the next main part of the work, it leads the listener to savor the atmosphere of the new picture. And is that not the purpose of Bach’s lesser chorales?

In questioning the significance of particular parts of the composition, we have more than once been helped by their numerological symbolism. We have seen the meaning of numerical symbols that have changed or deepened our appreciation of the figurative aspects of many of the works in this collection. We will now try to apply this method to the question at hand. To this end we have compiled a small table with the number of bars in each part of the composition (Appendix 1).

<b>Appendix 1</b>	
Prelude in E flat major	205
<i>Kyrie—Christe—Kyrie</i>	259
<i>Allein Gott in der Höh' sei Ehr'</i>	211
<i>Dies sind die heil'gen zehn Gebot'</i>	95
<i>Wir glauben all' an einen Gott</i>	115
<i>Vater unser im Himmelreich</i>	115
<i>Christ, unser Herr, zum Jordan kam</i>	108
<i>Aus tiefer Not schrei' ich zu dir</i>	177
<i>Jesus Christus unser Heiland</i>	185
Four duets	369
Fugue in E flat major	<u>117</u> <b>1956</b>

At first glance no obvious associations seem to appear. But when we add together the numbers that belong to the individual “sub-cycles,” that is to the parts *Kyrie – Gloria, Decalogue – Credo – Lord’s Prayer and Baptism – Confession – Eucharist*, we get a very different picture (Appendix 2).

Although we are as yet not able to understand the significance of these numbers, it is obvious that the result is not accidental. This symmetry with its round numbers is unlikely to be a matter of chance. And our amazement continues to grow: The number of bars from the beginning of the work to the end of the major keys part is 770, to the end of the *Vater-unser* part 1000, and to the end of the whole chorale part 1470. Obviously these round numbers come about through the inclusion of the lesser chorales (Appendix 3).

Given that there are several levels of meaning, it is likely that the secret of these numbers will never be fully exposed. One of these levels is undoubtedly theological, and another may have to do with important historical events. It is not impossible that a third level may reflect scientific developments, while finally there is the level that I take to be the main one—the metaphysical. It arises through the desire of the writer to delve deeper into the ultimate secret of existence. It is self-evident that all these meanings form an indivisible whole, just as do the numbers which reflect them. And obviously the music that lies behind these numbers should be bound up in the same manner into one indivisible whole.

Let us look at the connection of the parts *Decalogue – Credo – Lord’s Prayer* (see Appendix 2). They express the essence of the Christian life: the expression of faith through adherence to the Law and through prayer. This block has a total of 325 bars, and is to be found in the middle of our row of numbers. This solitary “uneven” number, which is flanked on both sides by the even number 470, attracts our attention like a magnet.

What is the cornerstone of the Christian life? The answer is clear: the Nicene Creed. It was adopted by the Church at the First Council of Nicaea in 325 AD.<sup>97</sup> And if our hypothesis is correct and the fundamentals of the Creed are really present, we should be able to find in close proximity some reference to the pillars of the Reformation. And in fact, the numbers 95 + 115 + 115 = 325 do bear out our supposition. On the last day of October 1517, the young theology teacher at the University of Wittenberg, Martin Luther, nailed 95 propositions to the door of All Saints’ Church in Wittenberg and thereby laid the foundation of what would become the Reformation.

The sum 230 (115 + 115) establishes a connection to the Lesser Catechism, which contains an interpretation of each of the Commandments of the Decalogue, three texts on the symbols of faith, a commentary on the seven requests in the Lord’s Prayer, together with an explanation of the two Sacraments (Baptism and Eucharist), and to Confession (10 + 3 + 7 + 2 + 1 = 23).

The formal occasion for which the *Clavierübung III* was put to paper has already been mentioned. It was the 200th anniversary of Luther’s visit to Leipzig and his sermon in the Castle of Pleissenburg on the 24th of May 1539.

And what was the content of Doctor Martin Luther’s sermon in Leipzig?

<b>Appendix 2</b>	
<i>Kyrie-Christe-Kyrie</i>	259
<i>Allein Gott in der Höh' sei Ehr'</i>	211 = <b>470</b>
<i>Dies sind die heil'gen zehn Gebot'</i>	95
<i>Wir glauben all' an einen Gott</i>	115
<i>Vater unser im Himmelreich</i>	115 = <b>325</b>
<i>Christ, unser Herr,</i>	108
<i>Aus tiefer Not schrei' ich zu dir</i>	177
<i>Jesus Christus unser Heiland</i>	185 = <b>470</b>

In his commentary on the 14th chapter of the Gospel of St. John (verses 23–31), which deals with events surrounding the Last Supper, Martin Luther preaches about the true faith which consists of far more than simply following the letter of priestly regulations. The sign of this true faith is, for Luther, the acceptance of the Word of God, the realization of His Commandments, and a true love for the Creator.

And in just this chapter of John’s Gospel, Jesus, in answering a question from Thomas, utters those key words (in verse 6) which are at the very heart of the Gospel: “I am the way, and the truth, and the life. No one comes to the Father except through me.” And as if it were a repeat of this divine statement, in the pages of Bach’s composition, wonderful numerical symbols appear that reveal the greatness of the Creator: 47(0) = DEUS (4 + 5 + 20 + 18), 77(0) = HALLELUJA (8 + 1 + 11 + 11 + 5 + 11 + 20 + 9 + 1) and 70(0) = JESUS (9 + 5 + 18 + 20 + 18).<sup>98</sup>

The number 1000, which rounds off the part *Vater unser im Himmelreich* [Our Father in Heaven], seems to symbolize the greatness of the One God and His heavenly Kingdom (“*Himmelreich*” in German). The number 1470 refers us to the hymnal Psalm 147, which we have already encountered in connection with the larger chorale *Zehn Gebote* [Decalogue]. The number can also be given a meaning in a theological context as 1 + 4 + 7 = 12 (the Church of Christ). It also contains a scientific undertone: 147 millions kilometres is the distance between the earth and the sun at the time of the winter solstice.

As has already been mentioned, the total number of bars of the four duets (369) can be associated with the events of Golgotha. At the same time it is reminiscent of the views of the Pythagoreans, who assumed that the basic elements (Fire, Air, Water, and Earth) are derived from the first four numbers: I, II, III, IV (369 : 3 = 123).

It may seem something of a paradox, but in the structure of the *Clavierübung III* one can find an allusion to Pythagoras himself. The total number of chorales and duets is 25. The structure of the work gives us grounds to see this as the sum of 9 (*Kyrie – Gloria*) and 16 (*Decalogue – Credo – Lord’s Prayer – Baptism – Confession – Eucharist* and the 4 duets). This leads us to the equation 9 + 16 = 25 (or 32 + 42 = 52), which is the simplest numerical expression of the theorem of Pythagoras (a<sup>2</sup> + b<sup>2</sup> = c<sup>2</sup>).

In the context of the 27 parts of the *Clavierübung III*, the numerological symbolism of the Prelude (205) and the Fugue (117) hardly needs any comment when one sees them written as 727 (2 + 5 = 7; 1 + 1 = 2; 7 = 7).<sup>99</sup>

Obviously the numerological symbolism of the *Clavierübung III* hides a deeper meaning. One of the most impressive numbers is 1956, the sum total of all bars in the work.

When we add the numerals together, we arrive at 3, the number which underlies this whole composition, and which Pythagoras considered to be the first “excellent” number, containing as it does within itself a beginning, a center and an end. There are of course other associations hidden in the number 1956. It is possible that it contains a reference to the work of Johannes Kepler, who published his first book, *Prodromus dissertationum mathematicarum continens mysterium cosmographicum*, in 1596. In it he attempted to establish a correlation between the elements of the planetary spheres.<sup>100</sup> When we divide 1956 by 27 (the sum total of pieces in the *Clavierübung III*) we arrive at 72.444...—

<b>Appendix 3</b>	
Prelude in E flat major	205
<i>Kyrie-Christe-Kyrie</i>	259 = <b>770</b>
<i>Allein Gott in der Höh' sei Ehr'</i>	211 = <b>1000</b>
<i>Dies sind die heil'gen zehn Gebot'</i>	95
<i>Wir glauben all' an einen Gott</i>	115
<i>Vater unser im Himmelreich</i>	115
<i>Christ, unser Herr, zum Jordan kam</i>	108 = <b>700</b>
<i>Aus tiefer Not schrei' ich zu dir</i>	177
<i>Jesus Christus unser Heiland</i>	185
	= <b>1470</b>

yet another mystical number which has further troubling connotations.<sup>101</sup>

Many years ago Philipp Spitta wrote that after finishing the *Clavierübung III*, “Bach considered his life’s work in the field of organ chorales to be essentially complete. After that he continued to collect and revise earlier works, but until his death he produced little original material.”<sup>102</sup>

That is a fair appraisal and those who have only an inkling of Bach’s methods and character can well imagine that once he had climbed to the summit, he never again trod the selfsame paths. This is perhaps the reason why he wrote only one passacaglia for organ and one chaconne for violin. Indeed, during the last ten years of his life, Bach seldom composed for the organ. This alone says much about the importance that he himself attached to the *Clavierübung III*.

How his contemporaries considered the *Clavierübung III* can probably best be seen from the following remark by Lorenz Christoph Mizler in 1740: “The author has here given proof that in this field of composition he is more skilled and more successful than many others. No one will surpass him in it and few will be able to imitate him.”<sup>103</sup> ■

#### Notes

84. Hurlbusch, who composed cantatas, concerti, and keyboard sonatas, became organist of the Oude Kerk in Amsterdam in 1743.

85. It is interesting to note that all three numbers are made up of the same numerals: 1 and 7.

86. According to Javorsky; see Nosina, *Simvolika muzyki I. S. Bacha*, p. 27.

87. It should also be noted that the number 205 corresponds to the sentence VON JOHANN SEBASTIAN BACH (by Johann Sebastian Bach).

88. Bach had already used the same theme in the earlier Prelude in E-flat Major in the *Wohltemperierte Klavier, Teil 1*. The melody was known in England as “St. Anne” hymn, very likely by the composer William Croft (1678–1727).

89. The overall symmetry is underlined by two cadences: in B major (first fugue) and in F minor (third fugue), which divide the fugues into related proportions—20:16 for the first fugue, and 16:20 for the third fugue.

90. Characteristically, Bach again arrives here at the number 27 (= 12+6+9).

91. In this context it is sufficient to present just two examples: the culmination in the

Passacaglia, BWV 582 (bars 284–285) and in the Fugue in G Minor, BWV 542/2 (bars 110–111).

92. These are traditionally known as the *Six Schübler Chorale Preludes* after the publisher Johann Georg Schübler.

93. The fifth is the first harmonically pure musical interval.

94. It is not without interest that Bach owned a copy of the treatise *Gradus ad Parnassum*, which bears his personal notes. This book was the work of the famous musician and scholar Johann Joseph Fux (1660–1741), who postulated that the *diabolus in musica* penetrates through an augmented fourth. See Johann Joseph Fux, *Gradus ad Parnassum* (Vienna, 1725), p. 51.

95. Several specialists hold the view that the order of the duets and chorale preludes is indeed not functional. See Albrecht, *J. S. Bachs “Clavier Übung,”* p. 66.

96. Hermann Keller does exactly this: “In keinem anderen Orgelwerk fühlen wir Bach so als musikalischen Verkünder und tiefen Deuter der Grundlehren des Luthertums wie hier.” [In no other work for the organ do we experience Bach as a musical preacher and profound interpreter of the basic precepts of Lutherism as in this work.] See Keller, *Die Orgelwerke Bachs*, p. 199.

97. This number contains further numbers, which are relevant for the part *Zehn Gebot – Credo – Vater unser*: 3+2+5 = 10 (Decalogue), 3 + (2+5) = 37 (the Christ Monogram).

98. The number 70 is traditionally seen to be the symbol of rejoicing. And incidentally, Luther understood the number 7 as the *herrliche* [glorious] number.

99. The different meanings of the number 205 have already been commented on above. 117 is the sum total of all chapters in the historical books of the New Testament, together with the four Gospels and the Acts of the Apostles.

100. Johannes Kepler (1571–1630) was a German scholar and philosopher, as well as being the writer of a musical treatise *Harmonices mundi* (1619). Kepler is known, not without reason, as the last Pythagorean in European scientific and musical circles. This is because he assumed that numbers were the universal basis of existence and that music could be explained on the basis of certain numerical rules.

101. The significance of 72 has already been explained above. The number 4 symbolizes (according to Werckmeister) the world of the angels, 44 symbolises Adam and Eve, while 444 symbolises the Cup of Sorrows.

102. Quoted in Albrecht, *J. S. Bachs “Clavier Übung,”* in *Bach-Jahrbuch* 55, p. 66.

103. Quoted in Christoph Wolff, *Bach: Essays on His Life and Music* (Harvard University Press, Cambridge, Massachusetts, and London, 1991), p. 208.

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