

Bach as Architect and Servant of the Spiritual: a closer look at the Goldberg Variations

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Introduction

The great Dutch pianist Dirk Schäfer once said about Bach: “The more perfect the work, the smaller the number of those to whom it reveals itself completely.” In spite of exhibitions, reviews, yes seeming popularisations, the Art Work is and remains the property of solitude. A perfect contrapuntist certainly shall be able to analyze Bach’s works technically and, being musically talented, also musically, but Bach is more than a miraculous contrapuntist. He is deeply devoted, not according to a certain formula (which isn’t devotion after all), but devoted “in the spirit”, the spirit of unrestricted love for the supernatural powers and for Mankind. —He bears the characteristics of the Protestant idea in the metaphysical meaning (like Händel that of Catholicism?). Bach is already a gifted style artist by surrendering his personality to divinity, the resignation in suffering, like Beethoven does in his later works. The spiritual power of Bach sublimates above the style period from which it originated, while possessing the seeds that leads to re-creation again and again. His creations span all style epochs by spiritual power. Geniuses are here in the first place to prove by their lives, that all beauty and noble things they give are happening outside their persona. The will to register and make tangible this mystical power originates from the lack of self denial. The more we can approach this higher power the more she shall enrich us. Beauty, or call it the ultimate love, comes to us when we give ourselves totally to her, when we are willing to die for her: the accelerated process of mental development of the chosen ones.

Well, that was an elaborate introduction to this article about Bach’s Goldberg Variations. It makes you feel humble. How difficult it is to capture Bach and his music in words! A number of items which I am going to mention have been extensively described by others already, but it might be interesting for you as my reader to look closer at some things I have discovered. I do hope this article can lead you to a better understanding of the work.

The time of Bach

We go to Dresden, 1742. About 250 years ago, in the middle of the late baroque era. Society and religion are characterized by big contrasts: people live with full religious devotion on one side, but on the other hand we see a strong growing

rationalism. In everyday life we see humility collide with the urge to develop the individual.

There is a growing interest in science. The *Ars Rhetorica* is the base of many art disciplines, both in religious and secular areas. Big geniuses like Galileo, Kepler and Newton were busy laying the foundations of our modern astronomy, mechanics and physics. We look at the birth of the *Encyclopaedia Britannica*, and for the first time we see the development of precise scientific gadgets. Leibniz and Newton worked on integral calculus, which forms a basis for our modern mathematics. Van Leeuwenhoek developed a microscope and observes protozoa. Clocks and time counting machines reach a very high level of perfection.

In this light, Baroque music itself becomes a time measuring instrument. Music becomes the art of “organized sound in time”, and is taught according to “scientific methods” as an almost mathematical part of the *Ars Rhetorica*. A composition had to conform to some criteria, like the rules of thesis, antithesis, synthesis: composing became putting musical arguments in the right place!

We are not astonished therefore that Bach, who took lessons in *Ars Rhetorica* during his gymnasium time, is always and in every possible way looking for perfect unity of contents, proportions, numbers and shape. Especially in Bach, we see a synthesis of all “ancient” forms and styles, in which there is the confidence that every musical element could be examined and controlled systematically. Even the human emotions could be abstracted in music. By means of abstraction, music could even easily have a stronger impact on listeners than the emotions of real life.

The melodies in those days as a result tend to extreme complexity, ornamental wealth and density. Each curl has another curl attached to it and on that curl there is another little curl... In this way you often hear very long ongoing spinning lines, which can be interwoven with other lines with genius in counterpoint.

The baroque conception is: music reflects a large scale of human emotions, but it is also a lifetime philosophy that unites the humble man with the magnitude of the Cosmos. Bach is a skilled craftsman with only one goal: to serve. He never shall compliment himself openly but he is very aware of his own genius. But small voices also reach out to God, so Bach regularly makes small encrypted annotations in his music to his person. As an example: Bach writes in the preface of the *Goldbergs* that he wrote “some variations” (“*Einige Variationen*”), suggesting that it is just a bunch of accidentally collected pieces. In this way he obscures the brilliantly planned Large-Scale-Architecture. We shall now take a closer look at this *Aria mit verschiedenen Veränderungen*, as the original title of the *Goldbergs* goes.

Origin of the Goldberg Variations

There are many articles about the origin of the *Goldberg Variations*, but here is a short summary. Bach supposedly got an assignment from Count Kayserling to write a work that could give him distraction and entertainment during his many sleepless nights. This music was to be played in an adjacent room by the harpsichordist of the count, Goldberg. As Bach was a protégé of the Dresdener

count, who was a fanatic music lover and arranged many business affairs for Bach, he could not shirk from this job, although at first he was a bit reluctant to write variations anyway, because of the repetitive harmonic structure of variations. Another story tells us that Goldberg was a student of Bach's son, Wilhelm Friedemann, and that at a certain moment Wilhelm Friedemann was insecure about himself in this teaching because of the tremendous talent of Goldberg. Wilhelm asked Dad (J.S.) to take over Goldberg as a student, because Dad was a much better teacher and pedagogue. Bach supposedly wrote the 30 Variations on the Aria (which already existed —there is a copy from 1725 in the Anna Magdalena *Notenbüchlein*) as exercise stuff for Goldberg.

Probably both stories contain partial truth. The idea of “music as a medicine” does not sound crazy. The concept of a healthy mind in a ditto body arose in this same period. And why should music, that affects the inner mind, not have also the power to affect the outer body and to make physical complaints more bearable? An analogue reasoning is also followed today in relation to psychosomatic ailments, as in homeopathy, which proposes a continuum between body and mind; and who is nowadays not aware of the calming (e.g. “new age”) or exciting (e.g. “house”) function of certain kinds of music to the body?

Structure, number and proportion

Bach's view of the world and his faith were based upon a unity between man and his creator. The microworld of human experience was the mirror image of the macroworld of the creation (compare this with the approach of infinity of mathematician Mandelbrot or of the Dutch painter Escher). And this unity could be represented or symbolized in simple proportions and patterns. In this case one could also use numbers and numeric relations. In the Kabbalah, which Bach certainly had knowledge of through the group called “Rosenkreuzer”, the “number” was not primarily used as an expression of quantity, but each number had a certain power which originated from the relation between things and fundamentals in nature of which they form an expression and to which they refer.

For the sake of a correct interpretation of this number symbolism, I shall give a brief summary of the properties of numbers according to the Kabbalists.

0 represents infinity, the frontierless essence, source of all things, the universal egg, the solar system as a whole, therefrom the universal, the going around, but also 0 is the universal paradox, the infinite large and infinite small, the circle of infinity, but also the centerpoint, the indivisible small atom.

1 is symbol of perfection, the positive, active principle that gave birth to the entire universe; revelation and unity of the Cosmos.

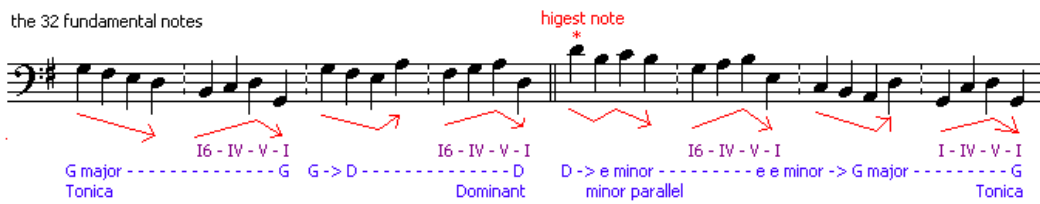
2 is duality of the creation: heaven-earth, mind-matter, light-darkness, moment-eternity, positive-negative, good-evil, active-passive, male-female, profits-losses etc. It is the number of the composition and division of parts, unifying and splitting, the concept of revelation and obscurity. The deliberate uttered and the silent inner logic.

- 3 is symbol of the Holy Trinity (Father, Son & Holy Spirit). Life, substance & intelligence. Power, matter and conscience. Creation, maintenance and resolution. Birth, life, death. The family: father, mother and child. The thinker, the thought and the object of the thinking. The past, the present and the future.
- 4 is the number of reality and concretion, the matter of the universe. The cube or quadrat, the second power. Physical laws, logic, intellect, knowledge, reasoning. The cross, intersection, division, ordering, classification.
- 5 represents expansion or spanning, understanding, intelligence, judgement, increment, fertility, propagation. Justice, mowing and harvest. Reproduction of the ego in the material world.
- 6 means cooperation. Marriage, interweaving, a piece of a chain, relation, mutual influence, counterbalance. Also harmony, peace, redemption, the interaction between the mental and physical (compare with the Jewish Star, a triangle pointing upwards and one pointing downwards).
- 7 is the number of fulfilment. Time and space, duration, distance. Age, decay, death or persistence. The seven eras, the days of the week, the Seven Seals, the principles of mankind, the seven notes of the scale. The perfect human being. The circular course of evolution, wisdom, balance, equality, quietness.
- 8 is the number of solution. The sublimating of the natural in the spiritual, inhaling followed by expiring. Geniality and inventions. Revolution. Deformations and eccentricity, capriciousness.
- 9 stands for the number of rebirth. A new birth, expansion of senses, presentiments. Dreams, clairvoyance. Reformation, nebulousness, pulsation, rhythm. The stretching, travelling, distancing.

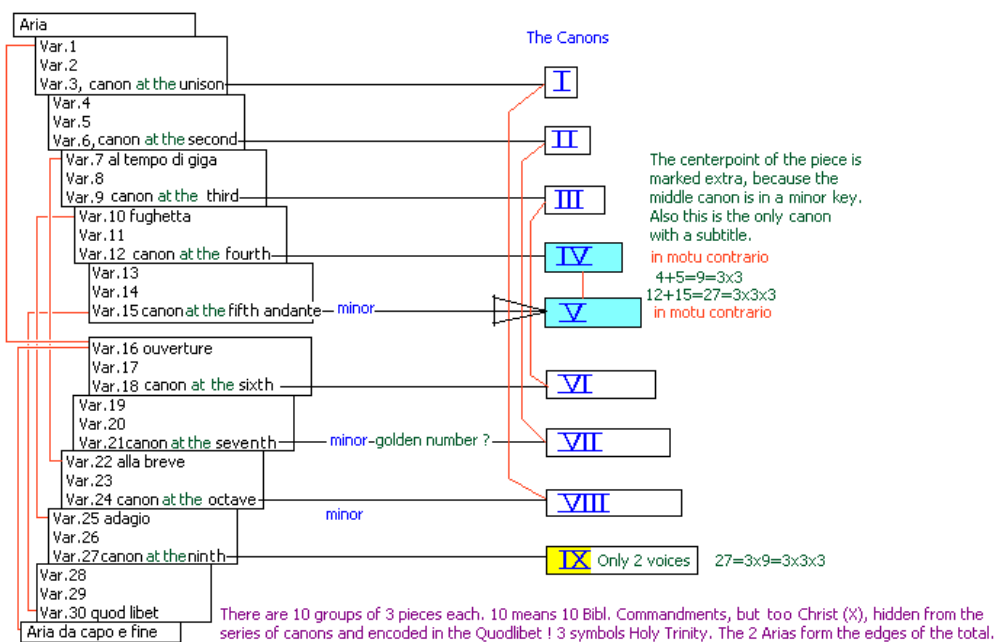
Out of these basic numbers new numbers can be formed by composition. E.g., 10 is the synthesis of 0 and 1, of cosmos and creating force, but also of the 10 Commandments and the Roman figure X, which is often used as a symbol of Christ.

The ancient Greek musicologist and mathematician Pythagoras (about 580–500 BC) computed all intervals as proportions between frequencies. The purest was the proportion of 1 : 1. In notes this is the perfect prime interval. Thus 2 : 1 becomes the octave, or the base note mirrored on a higher plan (e.g. an octave A'–A" = 440 Hz : 880 Hz = 1 : 2). According to the same principle, 2 : 3 forms the perfect fifth, 3 : 4 the perfect fourth, and in that way Pythagoras computed a numerical relation for every note-to-note proportion. The more complex the proportion, the more away from perfect consonance.

Bach used a similar proportional principle in the Goldbergs, but now he applied it to the form. There are 32 pieces: Aria, 30 variations, and the Aria *da capo*. These can be divided in different ways. The most obvious is the division in two parts: the second half of the whole piece starts with an Overture (= opening). Thus we get two parts with 16 pieces each, so in proportion 1 : 1. This macro architecture corresponds with the inner or micro architecture of each single variation. Every variation is built around 32 Bass notes (fig. below) which serve as the harmonic foundation.



And each variation consists of two halves which share the duration proportion 1 : 1 (32 or 16 bars for the first half, 32 or 16 bars for the second). Within each half of the variations there are 16 Bass notes interwoven. The Overture is an exception: there we see 16 slow bars in the first half with 16 Bass notes, and 32 in the second with the remaining 16 Bass notes: so proportion 1 : 2)



In each variation there is the binary principle (*Forma Bipartita*). Harmonically this is accomplished by starting on the tonic G and by closing down on the dominant D. The second half of each variation leads us back again from D to G; schematically: $G \rightarrow D \mid D \rightarrow G$ (cf. also the figure). This leads to a symmetrical architecture, with in the middle the harmonic culmination point. One may compare this to a tower on a church, which serves as a pointer up to God.

The 32 variations also have a “church tower” in the big structure: Variation 15 ends on a high single “heavenly”-high D. And variation 16 (the Overture, as “opening” to God) starts with a triple G-major (3 = divine trinity...). The first G major is a massive chord, the second G an ascending G-major scale and the third G a rhythmical and vitally punctuated descending G-major melodic chord.

More symbols

The 3 as trinity appears also in a second layer of architecture, marked by 9 CANONS. Every third variation is a canon in which two solo voices walk or run after each

other. A more free base line accompanies these voices. By the way: writing complex canons was almost a scientific job, because each voice has to “sound well” with the other one! Bach also wrote riddle canons for special situations or festivities, which could be “solved” given one voice together with some cryptic description. Bach also wrote 14 (= 2+1+3+8 = BACH) separate “riddle”-canons BWV 1076 on the first 8 bass notes of the Goldberg Variations.

Let’s take a look at the numbering and the building of the canons. The first canon (Var. 3, canon *all’unisono*) is a “normal” canon at the unison (like those we know from childhood) in which the second voice enters on the same pitch as the first one. Var. 6 (canon *alla secunda*) is a canon at the second: here voice 2 enters a note higher than voice 1.

So in every next canon the second voice enters on a bigger interval. The canon at the third: Var. 9 (NB. third = 3 and $9 = 3 \times 3$), canon at the fourth: Var. 12 and so on until the very last canon, the canon at the ninth: Var. 27 (= $3 \times 3 \times 3$). In this canon, something special is going on: the free composed bass voice has disappeared. Only the two canon voices are left following each other on the distance of a none. It is as if symbolically the Earth-character of such a lower bass voice were no longer necessary: there is renunciation to the old, there is rebirth. The canon at the octave, Var. 24, which precedes the canon at the ninth, has in its own concluded a little “cycle”, because the octave was 1 : 2; we are on the same note, but in a higher octave: we have been “sublimated”.

In the series of canons there is also a form of symmetry: canon 4 and canon 5 (together $9 = 3 \times 3$ by the way) are both *in motu contrario*, they walk mirrored. They form thereby the heart of the first 8 canons (3 in front, 3 following).

Considering another structural division, let’s now look only at the variations. The 30 variations themselves are also built up progressively and not only by the division in 10 groups of 3 (!) –because every third variation is a canon– but in the larger scale as well. This is even clearer if we look at variations with a sub-title (see fig.).

Variation 10 (= X = cross = Christ) is named Fughetta. This forms the closing piece of the 9 previous variations and as it were the synthesis of Aria (“Var. 0”) with the following 9 variations. Here also lays a division in 10 + 20 variations (= 1 : 2), because the fugue is placed commonly at the end of a suite of pieces. We also see that Variation 20 (= XX) has some remarkable properties too: in this fast spinning variation, two voices are continuously “crossing” each other both in a rhythmical and melodic manner.

Another form of symbolism is hidden in variations with subtitles. Most of the variations do not have a sub-title. Every time Bach writes additional titles, we may assume a possible extra meaning.

Variation 7, for example, has the subtitle “al tempo di Giga”. The number 7 represents the principles of creation and also of moral behaviour and commandments. It is not surprising that in this piece we can hear a symbolic representation of the Biblical 10 Commandments in a remarkable ascending little fast loop, sounding like a raised little finger. The symbolism goes even beyond, as if we almost liter-

ally hear the eight commandment (“Thou shall not give false testimony”): the loop points down here!

It is a known fact that Bach regularly autographed his works with hidden signatures in the form of B = 2, A = 1, C = 3, H = 8. So BACH = 2+1+3+8 (=14). Sometimes however we also see J.S. Bach = 9+18+14 = 41 (14 in reverse!) or J.S.B. = 9+18+2 = 29, but 2138 is the most common and typical Bach-related number.

We shall illustrate this with some examples: in the Goldbergs there are 32 pieces. The last “Aria da capo” is not written down in notes, but only mentioned as “Aria da capo”. Actually Bach wrote down only 31 pieces. Of those 31, there are 3 variations in minor keys (G-minor, var. 15, 21, 25) and 28 in G-major. This leads to: 1 (= A) (not written variation) 3 (= C) (minor key variations) 28 (= BH) (other variations). This is depicted elaborately in the book *Bach and the Number*, in which are also highlighted many other interesting things.

Variation 15 has the subtitle “andante”. It is the first minor key variation after 14 (= 2+1+3+8) major key variations and also the last variation of the 1st half of the Goldbergs (close to God \Rightarrow churchtower \Rightarrow individual devotion). Furthermore, in Kabbalah, 15 equals P. And “P” represents the Latin “Pisces” = Fish = symbol for Christ.

Variation 16 is the Overture: the opening piece of the second part. There shall follow 14 (!) variations after this one. Also remarkable is that the division of the whole GV in two parts has the effect that corresponding variations in the 1st and 2nd part are found exactly every 14 (!) variations (e.g., between var. 7 and 22 there are 14 variations, but also between 1 and 16, or 10 and 25).

Variation 22 also has a subtitle, namely “Alla Breve”. The letter X = 22 in the “Bach-alphabet” is another symbol for Christ. In this variation the Bass notes are very recognizable. Also there are exactly 14 crosses (#) in notation: a pointer to Bach’s devotion to Christ?

Variation 25 (adagio) has the strange almost atonal atmosphere of a minor key cantilena after the first cycle of the 8 triple voiced canons (remember Var. 24 = 3×8). Also in 25 there is a suspicious place. For a long time I have been wondering why Bach suddenly switches to triads instead of 16ths and 32nds notes in bar 7. I assume that this is done to mark his signature (see figure below). A strange searching little loop, which has almost no relation to the rest of the variation! The signature is cleverly hidden as well in “Bach-notes” (German notation B = H, and German notation B-flat = B), as in the number of notes and also in the number of half tone distances between the notes (besides, maybe there is also a symbolic link to number 12 here). There are 11 triad notes and 1 with binding to the next. Maybe a symbol of the twelve Apostles, with Judas (the traitor, so just a bit different from the rest) as the last one. Between the 6th and 7th note we can see 4 up, 1 down also as a weaker signature of J. S. Bach (9+18+14).

strange loop in Var. 25 of the Goldberg
variations: a hidden signature ????

B=2 A=1 C=3 H=8
2+1+3+8=14

Bachnotes H C B A H C B A end

Bachintervals 3 up 2 down 1 up 8 down 4 up 1 down 1 up 4 down end

Note nr. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 end

Variation 30 (= 3 x 10, and completion of the cycle) is a quodlibet. Its place is where we would expect to find a canon at the tenth according to the canon series, however Bach had something better in mind, also, because it is the very last variation. A quodlibet is a piece of music in which literally we hear “beloved songs”. Traditionally the manufacturing of a quodlibet was an entertaining thing amongst music lovers: make up different popular tunes that can sound all together at the same time. Bach ingeniously interweaves two known popular songs in this quodlibet (one of them more or less as a canon at the octave, the other one more or less as a canon at the fifth, and all of that at once!) with the base line, which contains the material of the 32 Bass notes. And the choice of these songs is not randomly made! Because what was beloved most by Bach? He secretly points to Christ again.

The first song in the quodlibet is “Ich bin so lang’ nicht bei dir gewest, rüch her, rüch her” (= I was away so long from you, come back, come back), a seemingly innocent love song, which one knew in Bach’s days mainly as a dancing melody (*Kehraus*), that often concluded a dancing party evening. But the text refers also to the “Aria”, which has sounded such a long time ago and has to return (and it does later as “da capo”), and to Christ, who shall return to Earth. And if we look at the Aria as “Variation 0”, the similarity is obvious. The creating principle (Aria) is expected back to close the circle.

The second song is “Kraut und Rüben haben mich vertrieben, hätt’ die Mutter Fleisch gekauft, so wär’ ich länger blieben” (freely translated as: “bad food” has caused me to leave, but if Mother had bought meat, I would have decided to stay longer), a goodbye song. In Holland we know it as two children’s songs: “Zagen zagen viele-wiele-wagen” and “Sinterklaasje bonne-bonne-bonne”.

Here “Kraut und Rüben” (= Garbage) refers at first sight to the silly Variations, which have chased away “mich” (= the Aria). Here too, not only Bach makes a joke about his own writings and inventions, but maybe also points to a deeper sense of understanding: Bach depicts the difficulty to keep a steady spiritual faith, and to remain devoted despite all ecclesiastical opposition (which Bach experienced especially as cantor), diverging opinions, and the rise of newer world philosophies and scientific thinking methods.

Means of variation

Bach uses many different methods to vary. By the way, what is a “variation” anyhow? A proper definition to me seems: “The repetition of the same thing, but

with a difference.” Bach varies both on micro scale and on macro scale. Let’s take a look at this “small-scale variation”, to find out how everything grows out of a single seed.

The Aria, for example. Bach wrote it earlier than the rest of the variations, but he probably chose it as the foundation of the Goldberg’s because it is in itself a variation work! The Aria starts on a G. What can you do with it? The first possibility is: just repeat it. So now we have 2 Gs following each other. Where is the variation? It is in the accompanying notes of the left hand: first a G too, then a B! After these two Gs in our melody you could place another G, but then you repeat a repetition, so that does not have enough variation in it. We now take just a higher note, an A. Now we can return to G, but we already have two of them, so we continue to go to the B, but with another rhythm this time: 8th with point and 16th, otherwise there is not enough variation! If we would step further and go to C now, we have a “step up” which repeats, so then back to this A. For the first time now we have this descending step. After all these small steps, it is time to hurry a bit. We take a slightly bigger step to the D below. But this jump should not be too blunt, so we fill it with a third in between and two little “small notes”. The first “small note” (G) is passing by, the second (E) is holding back to this long D. So, we have a nice theme now and we have made some progress. This theme can be repeated, of course. We do it, but now we start on a lower G, and we add some more grace notes (also the accompaniment uses some different chords now, however everything still looks alike).

Etcetera. Every little element of the theme is elaborated in a detailed way right from scratch, like a miniature stone in a big mosaic. The Aria hence is not accidentally the opening piece of a series of variations, but has an almost infinite large number of “mini-variations” enclosed in it.

Then we hear Variation 1. Because Count Kayserling was from Polish origin, Bach chooses as a tribute to the count to open with a Polonaise style rhythm. Also he opens the polonaise with the last 3 notes of the Aria (G–F#–G), and from here he develops scale like figurations, which ascend to heaven with bravura and descend afterwards to the Earth again. Where the Aria had a quiet and almost improvising nature, now the 1st variation sounds strict and rhythmical. A big contrast which demands a solution.

Variation 2 is therefore more relaxing. Now we open again with the same 3 notes (G–F#–G) but now we put them in the base line, meanwhile the 2 upper voices communicate and imitate each other like in a trio sonata. Actually, Variation 2 is an accompanied duet (= 2!).

In this way, every next variation bears elements from the previous one, thus affirming that these are variations, but every time we see enough contrast as well.

For the rest, Bach varies his forms (some are dances, others almost inventions or cantilenas), the character, direction of voices, metre (each new variation has a different metre from the previous one), density (sometimes only a few notes per beat, then on other occasions many of them), recognizability of the bass notes (sometimes very clearly to be heard, on other occasions hidden in the middle voices or divided amongst voices), playing techniques (sometimes simple, sometimes very

complex with crossing hands and crossing voices or fast-against-slow), etude-like-elements, instrumentation (some variations are constructed more instrumentally, others remind one of a singing choir, and others are like orchestral or like a soloist singer).

Conclusion

To highlight all facets is (especially in the context of an article) impossible. For those who want to learn more about the Goldbergs, I gladly refer to the literature and to the music itself! As a performing pianist I have played the Goldbergs many times in recitals. Besides, I made a CD-recording of the work. Every time and again it happens that the audiences are highly impressed by this piece (and not only because of my playing, I assure you!). The work is like a big diamond, polished by a super-diamond-polisher, in which every time again a certain face can be admired or looked at. The more often you hear the piece, the more it becomes clear, but also the more miraculous stuff you can discover in it! To end with Dirk Schäfer: “Art is the direct revelation of truth.”

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