

J.S. Bach: The Well Tempered Clavier – Remarks on Some of It

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Introductory Remarks

The Well Tempered Clavier (*Wohltemperierte Klavier*, henceforth WTC) is the name Bach gave to a collection of 24 couples of preludes and fugues in major and minor on all the 12 tones of the octave. He composed it in Coethen in 1722, sometimes using in the preludes materials of earlier works he composed for his elder son Wilhelm Friedmann. More than 20 years later he composed another such set of 24 couples. He didn't call it by that name, but according to his son Wilhelm Friedmann he approved of it being referred to, as has become customary, as WTC book II. The fact that Bach composed this second set of WTC gave rise to many speculations about the reason and the differences between the two, but we shall not go into it here.

The name suggests a particular method of tuning, which enables composing and modulating in all keys, major and minor. A "natural" or un-tempered tuning, built strictly on the "circle of fifths", where each one is a "real" fifth of the preceding one, which was common before, posed here serious obstacles and restrictions. It would make some scales (with many sharps or flats) sound out of tune, and many modulations practically impossible. At Bach's time there were some "tempering methods" for overcoming these obstacles, and it is not clear which one Bach intended. Some scholars believe that he even invented a method of his own. There is a rapidly growing scholarly literature on this and we shall not go into the problem, which involves some tricky mathematical and acoustical techniques.

The works were probably written for various keyboard instruments of his time – the harpsichord, the clavichord and the organ. Some suit one and some another. The modern piano was not known to Bach (he knew early versions of the forte-piano), but it seems that if one should choose one instrument for all, the piano is a reasonable choice, and in any case the most widespread today.

WTC is quite generally considered one of the most important works, or collection of works in classical music, especially for the keyboard. Many consider it, with Beethoven's 32 piano sonatas, **the** most important. In the 19th century Hans von Bülow called it The Old Testament of music, and its unique quality and importance is more and more appreciated. It was not published during Bach's life (1685-1750), but, among professional musicians who knew it, it was highly considered even during his life, and immediately after. Mozart transcribed some of the fugues to a string quartet and performed them. Beethoven knew and played all the 48 preludes and fugues in his youth and was known, already at Bonn, as "the pianist of the 48". Without in any way undermining the quality of the preludes (for what they are intended, as the name suggests), the main merits are ascribed to the fugues (there are exceptions, like the E-flat major prelude), and we shall follow suit and concentrate on some of them.

Let me remind you of the essentials of what a fugue is: a fugue is a contrapuntal genre – one of the major forms of polyphony in classical music, mainly, but not exclusively, in the Baroque and classical eras (17th-19th centuries). Several voices (usually 3 or 4, but there are fugues for 2-7 voices) play together, where a subject is first introduced in a single voice, and then passes between the voices, each playing a different material while the subject is in another voice. Often this other material forms a subject of

its own, called "countersubject". Between the various entrances of the subject there are "episodes", often using also material of the subject. In general, a fugue is organized in a two-part form (but there are many exceptions and variations on this): The first is an **exposition**, in which each of the voices takes the subject, usually on the tonic and dominant in turn (though sometimes in a four-voices fugue, the fourth entrance is again on the tonic; e.g. no. 1 in C, no. 14 in C# minor). In the exposition the process is gradual, where at first one voice introduces the subject, while the others are silent. Then another voice takes the subject while the first continues with the countersubject, or other material, and so on until the last voice takes the subject. So each voice, in taking the subject, as if chases the previous one – an idea from which the word "fugue" (from the Latin *fugare*) takes its origin. Some fugues have another exposition either on some variant of the subject or on a secondary subject, and it is then called a "double fugue" (there are even triple fugues). Another kind of double fugue is where the two subjects are treated simultaneously in the exposition.

The second part is a **development** section, which often consists of a series of entrances of the subject (sometimes called "secondary expositions") and episodes in between, in which various harmonic and contrapuntal maneuvers are exercised on the subject and on previous other materials. In many cases it is this part of the fugue which is the most interesting. Sometimes a fugue is ended by a partial return to the exposition, or a coda. Having said all that, it should be remembered that a fugue, particularly in Bach, is not a rigid form and there are various deviations from the above.

Though almost all great composers wrote fugues, Bach is generally considered the great master of the fugue. Bach wrote numerous fugues – for the clavier, organ and various instrumental and vocal ensembles. Some are movements within a larger work (like in the masses and cantatas); and some are separate complete works in themselves; some are parts within works that consist mainly (or entirely) of fugues. Prominent among the latter are the "Musical Offering" and of course the "Art of Fugue", which is his last great work. WTC also belongs to this kind. It is, to repeat, a series of 24 preludes and fugues, and together with the second volume of 1744, we are talking of two series, each consisting of 48 works. We shall conclude this general remarks by saying, if we may, that besides the exceptional qualities of each of them, the variety of the whole corpus is just astonishing. This can be said of other works of Bach's like the 30 Inventions, or the Goldberg Variations, the Suites and Partitas, but it is true also here, and perhaps – even to a greater extent.

The following are notes prepared for private lectures-cum-performance I sometimes give to a mixed audience, where there are obvious time and background knowledge limitations. They are designed for non-professionals who can read music notes and know elementary theory. They should be read as such, with the music-notes open before the reader. I have tried to avoid technicalities, but here and there they are unavoidable. In particular I had to avoid detailed harmonic analysis, which of course is a major defect. Its lack could be sometimes compensated for in live demonstrations. In referring to bars, "/m" indicates the about middle of the bar, and "m/n" refers to the nth beat on measure m. In the explanations, I try to give, besides general description of the work and some of its

jewels, hints as to what seems to me its **general idea** (hinted at in a subtitle). This is often more speculative and "subjective" than other aspects of the explanation, but I try to connect it and even base it on specific musical features of the work concerned.

Music is perhaps unique among the arts in that many (perhaps most) of the essential musical features of structure, harmony, contrapuntal fabric, thematic relations, etc. are hidden from most hearers – they are not conscious of them and are not in their perceptual horizon, even in an elementary phenomenal level. This raises a host of problems, some of them deep philosophical ones, like: What is the experiential content of what is heard in hearing a piece of music? Is it purely phenomenal or does it involve external factors? What is the relationship between what is objectively there in the work and what is heard in the experiential, perhaps even subjective sense? Who is to decide about the constitutive "musical features" of a work, and how? etc. I shall not discuss these important issues here, but just say that the aim of the general description of a work, mentioned above, is mainly to address attention to some of these features; to bridge some of the gap between what is heard (in the second sense) and what I believe should be heard.

Well Tempered Clavier I, No. 1 in C major (BWV 846)

Modest purity

The **Prelude** has a definite improvisatory character and has become a very famous work, learned by almost any piano student, mainly because it is relatively "easy" (though playing Bach properly is never easy). It is written in 4/4, but can be naturally heard *alla breve*. It consists mainly of a harmonic progression of chords played in *arpeggio*, in which the two lower voices are kept for a whole minim (half-note). The harmony is carefully calculated with organ points and their suspended resolutions (e.g. mm.23, 29), and so of course is the voice leading incorporated in it. In its purely naked harmonic skeletal presentation it is really most appropriate for a prelude beginning such a giant work as WTC, in which most of the preludes are built on a harmonic skeletal structure, but usually not in such a naked or pure form.

The Fugue - Purity is perhaps also the mark of this fugue. It is characterized here by its parsimony of means and the simplicity of its subject. It is a monothematic fugue, which has only one subject. There are no inversions or retrogrades or augmentations or other common contrapuntal operations on the subject, except for one – stretto – to be discussed below. Many of Bach's fugues has a character that can be generally expressed in words; some are solemn and heavy, some are sad and grievous, some are aspiring and hopeful, some are joyful, jolly, etc. With this one it is difficult to say any such thing – there is something sterile and neutral about it. But this is here merit, not vice; it does not deprive the fugue anything of its value. It is as if Bach presents here the "fugue-idea" in its purity, without coloring it with emotive or descriptive factors.

The fugue is in four voices entering in alt (A), Soprano (S), tenor (T) and bass (B). The outer ones (A and B) are on the tonic, while the inner ones (S, T) are on the dominant. Thus, the exposition ends on the tonic-chord, but in a very weak form in the second position without the tonic itself (beginning of m.7). It is more regular for a 4-voices expositions to have a tonic-dominant-tonic-dominant structure. The above structure in our fugue, though not uncommon, is not the regular one, and it is quite tempting to ask why Bach employs it here? What is the point of this not quite common structure? One can speculate that unlike the common T-D-T-D structure, the T-D-D-T one gives the exposition a sort of a convex form, somewhat similar to the form of the whole fugue, to be described below. In almost the exact middle of the fugue it is divided into two parts in a cadence (the first in the fugue) to the relative key of A minor (14). The passage leading to it has a beautiful intensity in juxtaposing sharp and natural F in mm.12-13. Then comes a second large development section (mm.14-24) containing the peak of the contrapuntal complexity of the work, ending in a cadence back to the tonic C (m.24). And then a closing section to the end of the work. So, the work at large has a convex structure of three sections with the peak and most stressed being the middle one.

The subject consists of 14 notes (until the E of m.2/3), which is the numeric value of the name "BACH" (2+1+3+8). This is probably intentional, as if Bach inscribed himself in tones right at the very beginning of the first fugue. We shall encounter similar manifestations of this in other fugues. The calmness and misleading simplicity of the

subject may conceal some of its secrets: it starts by measured steps of a filled rising fourth, immediately emphasized by two (empty) fourths and then a descending filled fourth in semiquavers, being of course an inversion of the rising fourth of the beginning. Note how the downward movement of E-D in m.1 and the beginning of m.2 remains sort of hung in the air without resolving on the tonic, which gives the subject some of its impetus and driving force. This is in fact true of the entire exposition, which ends (m.7) without a cadence and without really reaching the tonic C, though obviously suggesting it. This also contributes to the continuous flow of the entire work.

When the second voice (S) takes the subject, the first one (A) continues in what is called a counter-subject. It starts by two descending fourths like the end of the subject. These are smoothly connected to the ending of the subject so that the whole sounds like a sequence of three descending fourths. In fact, it is not only smooth connection, but the sequence of the three forms a musical unit in itself. It is quite remarkable that this 3-phase sequence is so treated as a single unit in the continuation of the work, somewhat like a counter-subject. It is e.g. inverted in the soprano of m.4 and often recurs in the sequel (e.g. mm./6-7, /10-11, /12-13, /25-26). This, I believe, is also significant for appreciating the continuous flow of the work. It is quite common that a tone or a chord is the end of a phrase and the beginning of the next. But here it is not a tone but a whole motif that serves these two functions, and this is much less common and quite remarkable.

A distinctive mark of this fugue is the copious of strettos. This is the main polyphonic maneuver in the work. A stretto, to remind you, is where a voice takes the subject while another voice is still playing it so that in a part of the subject they overlap. You are all familiar with it in many popular canons. Here this is done in the first episode right after the end of the exposition (m.7): the soprano begins the subject on the tonic, and the tenor begins it on the dominant after only one crochet, while the soprano still goes on with it. This is followed immediately by another stretto (m.10) on G in the bass and its dominant (D) in the alto. From now on almost any entrance of the subject is followed by a similar stretto, mostly with a phase of a crochet; sometimes with a longer one.

This comes to its peak in the second section of the fugue (mm.14-24). In its first sub-section (mm.14-19) there are eight (!) strettos (A, T, B, S, S, A, T, B), the fourth being cut before the end. This is immediately followed by a more widened sequence of four strettos (T, A, S, B) in the next sub-section (19-24). Another more relaxed stretto of two entrances (B, A) in the closing section (24-27) is followed by a stretto on the counter-subject (S, A) towards the end of the fugue (/25-26).

This barrage of strettos in such a short fugue is outstanding. It is as if Bach wanted to demonstrate right at the beginning of WTC what contrapuntal marvels can be done with a single subject in a mono thematic fugue. But this is no show off; it is a manifestation of the purity of the work. There are many contrapuntal maneuvers in a fugue besides stretto – inversions, retrogrades, augmentations, diminutions etc. All these are here avoided. Just strettos. But it seems that except for the very fugal structure, stretto is perhaps the purest contrapuntal maneuver in a fugue, for it takes the skeletal fugal idea of voices repeating or imitating each other and presents it in a compressed form. This fugue is absolutely dominated by strettos, and this is why I said that it is

marked by its purity. So, if the prelude is marked by presenting the pure form of a prelude, something similar can be said about the fugue – it manifests the pure form of fugue.

One last speculation on this virtuosic demonstration of strettos. Besides the above point about purity, it may have a point in being the first fugue in the corpus – as if making the listener be stunned and ask herself: where else can we advance from here? What further can be done in a fugue? Well, go through the 48 and you will see.

Well Tempered Clavier I, No. 3 in C# major (BWV 848)

Ways of interplay between main and secondary subjects

The Prelude is a lively fast piece in two voices, built on a rising and descending fourth above a fixed point on the tonic. It belongs to a group of preludes which have a quite virtuosic character, somewhat reminiscent of the style of D. Scarlatti (the C minor, D major, D minor, F major, G major and b-flat major can be included here). The roles of the two hands is continuously changing with fluent harmonic modulations in fifths (C# - G# - D# - A# - E#, and then more rapid modulations to F# (m. 47) keeping the same texture throughout. Here the beginning as if starts again on the sub-dominant F#, but it soon comes to the dominant G# (m.63 leading to the tonic, where the texture changes (again in a Scarlatti-style manner) and the G# remains an organ point for quite a while – an allusion to the fixed point texture of the beginning. The texture then opens up with arpeggi going up and down (from m.77), and becomes more airy and jumpy, leading again to a fixed point of G# like in m.63 and to the end of the prelude.

The Fugue is a vivid one in 3 voices. Its subject is one of the loveliest and most playful in the corpus. It consists of two motifs the second of which is built on a descending fourth motif reminiscent of that of the prelude. The exposition (mm.1-7) is quite usual, where the subject enters in the tonic (upper voice), the dominant (middle voice), and the tonic again (lower voice). With the entrance of the middle voice, the upper one continues with the counter-subject, which remains a major factor throughout the fugue.

There are no notable strettos, inversion or other contrapuntal maneuvers. The main contrapuntal interesting feature of the fugue is the interplay between the main subject and a secondary subject. This secondary subject occurs first in m.7 and consists of a descending sequence of thirds. This sequence itself descends in a fourth, being an augmentation of the descending fourth of the second motif of the main subject mentioned above. At m.12 the upper and lower voices change roles in playing this secondary subject, where the upper one inverts its role in an uprising movement. From m.14 the main and the secondary subjects come in immediate succession in the bass, while the two upper voices play with the counter-subject. This comes to its end on the mediant (E# minor) at m.22/3, where another interplay begins, this time between the main subject and the secondary one simultaneously. This is immediately followed by an interplay between the main subject and the counter-subject as at the beginning (m.25-28/3). An expansive development of the secondary subject follows leading to a development of the main subject at mm.35-42/3. There three entrances of the main subject (with its counter-subject) return like in the exposition (mm.42/3-48). Two measures of a development of the secondary subject leads to the final entrance of the main subject in the tonic (m.52).

So we have here five ways of treating the secondary subject: 1) It enters by itself (m.7). 2) Its bass is inverted in the upper voice (m.12). 3) It comes in succession after the main subject (m.16).4) It enters simultaneously with the main subject (m.23).

5) It is itself developed (mm.16-18; 31-34). The same five ways can be said about the main subject as well.

Well Tempered Clavier I, No. 4 in C# minor (BWV 849)

Some religious aspects

We cannot dwell here into a detailed musical analysis, but after having made some acquaintance with some basic notions of the fugue, let me say something about the religious character of our fugue in c# minor. Almost all of Bach's music has a religious character. It is of course evident in many of his works written to religious texts and designed for religious practice in the church (the masses, the *passions*, most of the cantatas, etc.). But the religious character of his music is notable also in his instrumental works, the keyboard works included. It is true of many pieces, not only the solemn and "heavy" ones; even in joyful and happy pieces, like e.g. many of the Courantes and Giges of the suites, one feels a religious character: the joy and happiness are of the glory of God, the unlimited wealth and variety of his creation, elevating the human mind, etc. It is quite typical that Bach signed many of his instrumental works, including (by some editions) WTC, by S.D.G. (Soli Deo Gloria).

It is of course not easy to pin down and to articulate in words what in these works makes this religious character. We cannot deal here with the many factors and comparisons that should be noted in order to appreciate it. Obviously, similarities to music written to religious texts are part of the story, as are allusions to known Chorales sung in the church and Chorale-based harmonic designs. But other factors could also be noted here, as e.g. the steadiness and constancy of the music – in rhythm, in texture, in thematic relations etc., which give a permanent feeling of firmness, security and steadiness, which are characteristic of religious temperament and the faith in God.

A distinction often suggests itself between general religious character of music and features that are particularly Christian. Whereas almost all of Bach's music is religious in the first general sense, some of his works are distinctly of the second one. This again is obvious with regards to music written to Christian texts, but it is also true of many instrumental pieces, and our Fugue in c# minor is a case in point (so are I think also the fugues in d# minor, f# minor, b-flat minor, b minor of the first book).¹ We shall come back to it later.

The **Prelude**, in 6/4 (i.e. two beats per bar) is marked by a rich polyphonic texture of four voices. It is built on a rather gloomy subject consisting of two descending motifs on each of the beats of m.1: a) the descending fifth in quavers, and b) the dotted descending fourth. This characterizes the entire prelude, where at times there are as if efforts to raise up and cry, but soon extinguished back to the gloomy descents (e.g. mm.16-20). These come to their peak at m.25 with the high B# on the diminished VII.

The two motifs of the subject govern everything. The descending fourth (b) is largely augmented in the downward passage (mm.5-8) leading to E (the relative major). The polyphonic texture, which is of four voices throughout, becomes denser, where the

¹ See Michael Marissen, *The Social and Religious Designs of Bach's Brandenburg Concertos*, Princeton, 1995, Ch. 3, pp.111-19. Unfortunately, Marissen discusses only the Lutheran conception of the social significance of order and hierarchy, which Bach accepted and respected.

two motifs are combined in contrapuntal textures, leading to the dominant G# (m.14). The harmony and its pace are then further intensified in a long developmental section, leading through various degrees to a cadence to the tonic C#. But the solution is postponed by a deceptive A# (m.35) until the very last bar. All this is beautifully built on the contrapuntal play between the two motifs (a) and (b) of the subject.

The Fugue in C# minor is a solemn, sophisticated contrapuntal work. I hope you all agree that even in the musical and spiritual heights of WTC our fugue in C# minor has a special place. Its general character is of a deep grief, agony and *passion* (in the Latin sense) but with a firm religious belief of the kind e.g. of the second Kyrie of the B minor mass.

It is No. 4 in the WTC and appears between two with which it couldn't contrast more: the joyful and jolly C# major and the resolute and majestic D major. The C# minor fugue is in 5 voices entering in the exposition in rising order from the bass to the soprano (mm.1-19). This is quite notable for there is only one other 5 voices fugue in the WTC, the one in B-flat minor I mentioned before. Our fugue is particularly rich not only in the number of voices, but also in the number of themes or subjects. It is sometimes difficult to distinguish between a separate theme (often in the episodes) and what is called a "counter-subject" – that part after the main theme that continues while the second (and other) voices enter. But in our case the distinction is relatively obvious.

The first two fugues of WTC (in C major and minor) are mono-thematic; the first is a sophisticated fugue in 4 voices with many strettos – all on one theme, as if Bach wanted to demonstrate right in the first fugue what contrapuntal marvels can be done with a fugue of one theme. The third, in C# major has two main themes, and this is true of many fugues. Our one, in C# minor has three, which is much less common. They are very different themes, both in texture and feeling. Though, like so much of Bach's music, they all give a sense of security and steadiness, the first is very solemn and awesome; the second is fluent and tranquil; while the third gives a sense of hope and devotion. It is one of the secrets and great merits of this fugue that these three very different subjects are mingled and combined in such a convincing and expressive way in complex contrapuntal structures.

Coming back to the Christian-Lutheran religiosity of this fugue let me insert here a preliminary general remark. Bach, as everybody knows, is the great master of the fugue. The Fugue was a quite common musical form at his time and before (and, though much less so, also later), and yet their place in his output – both in number and in quality – is outstanding. This may be the result of many factors, his personal predilections and phenomenal capacity in the genre, among them. But it may have also a religious significance or explanation, for one of the distinctive marks of a fugue, more than any other musical form, is that it ascribes equal status and importance to the various voices. They retain their individuality, and yet are equal – both in status and importance, and even in role. Now, this is a distinctive Lutheran idea: everyone (i.e. Christian...) has his/her

individuality, but all aim at the same goal and are equal before God.² I don't know if this idea was consciously operative in Bach's (or other composers') mind in ascribing this primary status to the fugue in music, but, though very abstract and quite speculative, I propose it as a possible speculative explanation for this.

I shall now say something of the significance of the number 5 in our fugue. The fugue, as mentioned, is in 5 voices. The first theme consists of 5 tones. The second theme (from m.36) consists of a descending sequence of 5 steps (5 bars mm.36-40). In two special places there is a notable motif of chromatic descent of 5 steps (mm.71-73; mm.103-105).

Now, the number 5 is symbolic in the Christian (Lutheran) tradition in which Bach lived. It is symbolic for the five wounds of Jesus on the cross, and thus, of his suffering and of God's grace. It is symbolized in the "epiphany star" (an alignment of 5 stars and planets, including Regulus, Jupiter, Mars, Mercury, and Venus, within the constellation Leo, which showed the three Magi their way to Jesus (Mathew 2)). This is sometimes symbolized by a drawn star of 5 points, and a group of five crosses became a common symbol on flags and in art (e.g. the famous Caravaggio painting of Jesus' showing his five wounds). Buxtehude, whom Bach admired, wrote in 1680 a long Oratorio on an old medieval poem on the limbs of Jesus' body that were wounded on the cross (*Membra Jesu nostri*), emphasizing the famous five wounds. Bach must have known it. He used 5 stanzas of the last part of the poem in the *Matheus Passion*. Its melody became one of his best known chorales (*O Haupt voll Blut und Wunden*). So we may gather that the five holy wounds and the symbolic meaning of 5 were deep in his conscience.

This 5-tones motif of our fugue is quite close in its general contour to the famous "BACH" motif (b-flat, a, c, b-natural). In German, like in English, the letters A...G are used to signify tones. But the letter "B" signifies the tone b-flat, and "H" signifies natural b. Bach sometimes played with this motif of his name, most famously towards the end of the *Art of Fugue* (though the famous fugue on it, BWV 898 sometimes ascribed to him, is probably not authentic). Later on hundreds of works were written on it, amongst others by Brahms, Liszt, Schumann, Schoenberg and Webern.

Motive A is marked by the (rare) diminished fourth between its second and third tones, which gives it a stressing and painful character (though sometimes, for harmonic reasons, a perfect fourth occurs instead, e.g. the middle voice in m.32). At its two sides there are two descending minor seconds and the last note is back the tonic. Some people associate this general contour with the Christian cross.³ It occurs 30 times in the piece, in the first section, most often in a double tempo (halves instead of wholes), some with slight deviations (e.g. in mm.22, 47, 54, 94), and some in dense stretto (mm.54-58 where a perfect fourth takes the place of its diminished form; mm.65-69, tenor and soprano; mm.94-99 – a triple stretto in the soprano and alto, which occurs within a long stretto of

² This, by the way, in another version, is a classical Jewish idea, expanded e.g. in many Talmudic commentaries on the biblical idea of God's creating man in his own image (Genesis I, 27).

³ Compare here also the theme of the B-flat minor fugue of WTC II.

the third theme in mm.93-101). Its general introvert and suffering character can be appreciated by comparing it to the second Kyrie Eleison of the B minor mass, which from a purely motivic point of view is quite close to it (and which is also almost an inversion of the "BACH" motif), but so different in character.

Some scholars like to talk of the mixture of "the old" and "the new" in Bach. In its general character this theme is cast in the old style of the late Renaissance motets or of a Buxtehude fugue. However the tensed diminished fourth mentioned above is a glimpse to the new and modern style. This mingling of the old and the modern is quite typical, e.g. also of the main theme of the fugue in F# minor, where a chromatic ascent - typical of the modern style - is mingled in a motif whose general pace and character is of the old one.

The second theme (soprano of m.36) is a flowing descending sequence of eights that continues for 5 bars in 5 units. On its entrance, and often later, it counterpoints the first one as a sort of a countersubject, but sometimes couples with the third theme, without the first. It also occurs in an inverted form of a rising sequence (e.g. mm.41-43).

The third theme (tenor of m.49) is marked by the rising perfect fourth and its thrice repeated upper tone. It may derive from the alto of m.41 of the second theme. It also sometimes occurs in dense strettos, e.g. the particularly long one in mm.93-101. It is the most frequently repeated theme and though the last to enter it occurs more than 35 times. Actually, after its appearance there is no bar in which it is absent. The three themes then are mingled, face each other and played together in the various voices throughout the rest of the fugue in exemplary contrapuntal structures. For instance, they all appear simultaneously in mm.51-53, and then again (in different voices) in mm.59-61, and again, even with a stretto in mm.65-67 and so on in numerous other places. Actually, after their introduction, except for a special place of two bars to be discussed below, there is no bar in which these themes don't appear, either in couples or all together. The fugue ends with a four bars codetta, in which the first and third themes combine together.

Of special importance are two places of a notable chromatic descent of 5 steps. Slow chromatic descents are again typical of many Bach's passages expressing agony and suffering. In the first occurrence, the second and third themes interplay, and instead of the main one we have in the upper voice an agonizing chromatic descent of five steps (see above about the significance of 5 here), preceded by shorter hints for it. It occurs in mm.71-73, and this is a special place – just before the emphatic entrance of the main theme in the very low bass (m.74). The other place is in mm.103-105. This again is a special place – it comes after a long and particularly stressed sequence of strettos of both the first and the third themes, which is in some sense the peak of the work. It also begins a bold harmonic complex moves around the tonic before the codetta (from m 112). And again the slow chromatic descent in the upper voice is dominating. I think it can hardly be accidental that this two chromatic passages, particularly the second, occur in the special places they do.

The general character and pace of this magnificent piece and of its main theme, the significance of many features marked by the number 5, the special places and significance of the chromatic passages, all these are features that contribute to the special Christian religiosity of this beautiful piece of purely instrumental music.

Well Tempered Clavier I, No. 8 in E-flat/D# minor (BWV 853)

Warm beauty embracing contrapuntal sophistication

This is the only couple in which the prelude is in the enharmonic equivalent of the fugue (E-flat minor and D# minor). These sound (acoustically) as the same key only in a well tempered tuning, and this may have been one of the reasons for Bach's doing it (with keys of 6 sharps and flats) – to demonstrate the advantages of tempered tuning. A more prosaic and disappointing reason has been suggested, namely, that Bach used here a prelude that was originally in E minor, and a fugue that was originally in D minor (I don't know of any evidence for this).

The Prelude in 3/2 is almost unique in the WTC in being what seems to be a solo melody with chords accompaniment. "Almost", because e.g. No. 10 in E minor comes close to that, though its accompaniment is articulated melodically and is treated as a separate independent subject in the second part, the presto (from m.23). "Seems", because the harmonic progression is the very essence of the piece. This is quite remarkable as this prelude succeeds the one in E-flat major (No. 7), which is the most sophisticated and contrapuntally complex in the entire WTC. The tempo in our prelude is obviously slow; it is marked by the pattern of repeated chords of three minims (halves) that goes throughout the prelude. The melody is marked by a dotted rhythm with wide jumps up and down, built on a basic move of a descending fifth from B-flat (1) to E-flat (4). Of particular importance is the "third-motive" at the beginning of m. 4; this is repeated, inverted and augmented throughout the piece. On the basis of the permanent slow three chords of halves, the harmonic tension is kept throughout the piece. From m.6 the repeated three minims motif is exchanged between the hands in a harmonic progression that leads to the minor dominant, B-flat minor in m.12, further established in m.16. From there it is intensified through a series of diminished VII chords with a greater role of the bass, to a cadence to the sub-dominant, A-flat minor (m.20). The pull to the subdominant is characteristic also of the last section of the work. The emphatic F-flat at m.19, which serves here as VI of A-flat minor, prepares the way to a Neapolitanic (lowered II) F-flat at m.26. A deceptive cadence as if to the tonic leads again to the subdominant A-flat (m.29), which is followed by further little deceptions in m.31, and a prolonged VII (m.32-35) leading to a cadence back to the tonic (m.36). But here is a surprise again! The tonic is a septachord pulling to the subdominant A-flat, which leads at the very end to a real IV-V-I cadence to a Piccardi E-flat major.

Note the excessive use of tritones, not only in the diminished chords, but also in the downward jumps in the melody in mm.20-21, 26. Note also the high chromatic cry of B-flat (7) - C-flat (9) - C (11). This compressed but measured harmony and the excessive use of diminished chords, Neapolitanic seconds and tritonic jumps give the piece its stressed and dark character (though it has its brighter moments, like the turn to G-flat major in m.5). It is one of the most melodious preludes in WTC, but it is a melody of stress and cry for help or salvation – one of the sort of Psalm 130 and its likes.

The Fugue is in D# minor – the enharmonic equivalent of E-flat. It is one of the longest fugues in WTC, and its integration of beauty and warmth with a most sophisticated contrapuntal work (to be partly described below) makes it (for me) one of the brighter jewels of WTC. Its beauty shines from every bar and needs no special commentary. I shall therefore concentrate on some points of the contrapuntal sophistication, and even this in a quite superficial way.

The fugue is in 4/4 and of three voices, entering with the middle voice (M), then the upper one (S) and the lower one (B). The main subject is a particularly beautiful and warm melody. The jump of a fifth D#-A# at the beginning is answered by a long descent of a filled fifth back from A# to D# (m.3/3). The exposition ends on the tonic D# (m./10). A slightly agitated bar, with a lamenting chromatic descent of six steps in B (to recur towards the end in mm. 73-4), opens the ensuing episode. The episode starts with the main subject in the bass (m.12), leading to a cadence to the dominant A# (m.19/3). A secondary exposition begins, in which a stretto on the octave of two voices (M, S) with a two crochets phase is heard above a permanent steady move of quavers in the bass. This is then intensified by another stretto of all the three voices (S, M, B, m.24) in a phase of one crochet with the middle voice making a slight dotted variation and the bass making a much more significant variation after beginning the subject. Then comes another stretto (S, M), but again of a two crochets phase (m.27), which leads to a cadence to F# major (m.30) – the relative major. This terminates the first large section of the development. I divided it into two sub-parts, calling the second "secondary exposition", but this division and terminology are not crucial and one can take the whole (mm.10-30) as one section of the development.

The second large section intensifies the contrapuntal structure even further and shows a most sophisticated work with inversions and strettos (double and triple) – both of the direct subject, its inversions, and augmentations. Its first part (mm.30-52) is almost a second exposition on the inversion of the main subject, as all the three voices take the inversion in turn (S, M, B). "Almost" because there are quite substantial episodes between these entrances. It begins with S introducing the inversion of the subject in F# major (m.30) – the relative major of the tonic. A short episode leads to the entrance of the inversion in M on the subdominant G# minor (m.36), soon modulated back to D# (m.39), where a much more intensified episode leads to the third entrance of the inversion in B, again in G# minor (m./44).

The main obstacle in regarding this part as a second exposition (and thus the whole fugue as a "double fugue") is the lack of any real cadence. Though touching on the tonic and dominant here and there, Bach keeps the harmony moving on continuously until at least the dominant in m.61. This continuous moving-on is also contrapuntal, for the inversion in B (m.44) we have reached is at once the third in a series of three inversions from m. 30, and the beginning of a series of strettos to follow. It is quite common that a tone or a chord is at once the end of a phrase and the beginning of the next. In Fugue 1 in C major, we saw that a motif is at once the end of the subject and the beginning of the countersubject. Here we see something similar but on a larger, structural level: an inverted subject is at once the last in a series of inversions and the first in a

series of strettos. In the first stretto, S enters the inverted subject in a phase of two crochets in G# (m.45). This is followed by a more intensified stretto (on the inversion) of only one crochet phase (m./47, with S taking the slightly dotted variant) leading to the dominant (m.52), which ends this part.

The second part of this section begins here with a sort of an orgy of two successive triple strettos of one crochet phase – the first of the direct subject (B, M, S), but in a shortened form of only its beginning; the second is of the inverted form (B, M, S, m.54), again shortened in a similar way. This is a compressed contrapuntal passage, which Bach somewhat relaxes in the following four bars with an entrance of the subject in S (m./57) leading to a large cadence to the dominant A# (m.61).

Here begins the last large section, which is a series of three strettos, dominated by augmentation of the subject (i.e. doubling the rhythmic value of the notes) combined with strettos of this augmentation and the subject in its regular and inverted forms. These occur three times in the three voices – B, M and S. This last section, with its multi-strettos combining the subject, its augmented and inverted forms is a culmination of the contrapuntal work, and bestows a dramatic structure on the whole fugue.

Right at its beginning (m./61) M enters with the subject and B immediately enters a stretto with its augmentation (m.62). While B carries this augmented form (naturally lasting twice as long as the regular one), S enters from above with the inverted form (m./64), which makes it into a triple stretto, all leading to G# (m.67). This is the beginning of another similar stretto with B entering the regular subject and M entering the augmented form in a two crochets phase. S then enters from above with the subject (m./69), while M is still carrying the augmented form of the subject, all this leading again to G# (m.72/75). So this is the second triple stretto with the subject augmented. On the way to the more definite cadence to G# at m.75, M enters with a slight variation on the subject (mm.72-75), while S expressively revives the agonized chromatic descent of six steps we encountered before (mm.73-4), supported with short chromatic moves in B. This is combined with a more remote variation on the subject in M (mm.75-77). This short and intensive episode leads to the third and last augmented stretto, which is a quadruple one, in which the section culminates: B begins with the subject *simpliciter* (m.77); M enters in a crochet phase with a dotted variant of a mixture of the regular and augmented forms, and S enters in a crochet phase with an emphatic statement in the high register of the augmented form (mm.77-82). While S is still carrying this augmented subject, M inserts another entrance of the subject (m./80), making it in fact a quadruple stretto. A final episode of five bars, beginning with an introvert subdominant diminished chord (II), and opening up to the dominant (while M repeats in mm.83-5 the rhythmic pattern of the beginning of the subject), leads to the (Piccardi) tonic at the end.

The above is a general description of some aspects of the contrapuntal work here, in which I also tried to hint at its structural and even dramatic function.

Let us just list some of the points of the contrapuntal process described above: Inversion of the subject (30, 36); Stretto of the subject (19, 27); Stretto of inversion (44, 47); Triple stretto of the subject (52); Triple stretto of the inversion (54); Triple Stretto (M, B, S) with augmentation in the bass, and inversion in S (61-7); Triple Stretto (B, M)

with augmentation in M (67-72); Quadruple stretto (B, M, S, M) with augmentation in S (77-82). About half of the strettos are of two crochets phase, and half are of one. All this, it should be noted, is done on a quite long and beautiful subject.

These are just some of the points on the contrapuntal maneuvers on the subject. There are many other features of the subject Bach exploits. Note, for instance, how the rising third of the subject (m.2/1) is exploited, e.g. in B mm.57-58, and how after being augmented in m.64 (B) it is immediately diminished (M). And besides these, there are many others having to do with Bach's masterly voice-leading, thematic allusions, rhythmical maneuvers and of course harmony, which we cannot discuss here. This is compositional and technical sophistication and mastery that can be analyzed and put in technical words of analysts. However, it is not only most impressive as such, but integrates with, and in fact is in the service of warm expressiveness and embracing beauty that I don't know how to put in words. The result, if we may, is one of the peaks of WTC, in front of which one can just stand with wonder and admiration.

Well Tempered Clavier I No. 17 in A-flat major (BWV 862)

Attention to the counter-subject, please!

The Prelude - If any of the preludes in WTC literally deserves its name it is this one. The simple subject with its solid tonic-dominant harmony fits the general unpretentious character of this prelude. It reminds the colorful organ preludes and even those of the orchestral suites, and calls for orchestration. The subject is built on the tones of the triad chord, preparing in this respect the following fugue. The prelude has three parts, clearly marked by cadences at mm. 18, and 35. With all its seeming simplicity, one should note a sophisticated feature in the rhythm: It is in 3/4, the emphasis being mostly on the 2nd beat, which in itself is not the standard. But then, as in m. 9 etc. the emphasis splits between the hands: while in the left one it is still on the 2nd, in the right it shifts to the 3rd, and then at m.13 – to the 1st.

The Fugue

The solemn spirited subject consists of 7 tones in equal quavers. The four entrances of it in the exposition come in two pairs: T, B and S, A. In each the first entrance is on the tonic and the second on the dominant. The counter-subject (m. 2-3) inserts some movement but again in measured equal semi-quavers. It is of great importance in the course of the fugue (especially its second half m.2/4-3/2), equal to that of the main subject. One should note the descent of fourth - F (3/4) - E flat (4/2) - D flat (4/4) - C (5/2). This recurs in the descent of A flat -G-F-E flat in the soprano of m.5 - 6/2, and then in the soprano of m.9-10, and is of great importance in the sequel. The exposition ends on the tonic I⁶ chord (m. 10).

The first episode (from m.11) plays in the soprano on a variation on the counter-subject, which is again very important in the sequel, and can be regarded as a third subject. But the more interesting thing happens in the lower voices: the tenor begins with the 7 notes main subject attaching to it the descending fourth in minims (half-notes) which we encountered before after the counter-subject. The bass, meanwhile, begins with a variation on the counter-subject to which is attached the quavers move of the first entrance of the bass in the exposition (m.3). It all leads to an entrance of the main subject in the relative minor (F, m.13) and to the first real cadence to it at m.16. But it soon leaves it to B flat minor and back to E flat (m.23). From there we have a rapid sequence of entrances of the subject to the end of the fugue. The poor F minor, left behind rather quickly, gets compensated in the spirited ascent of m.31, and the emphatic deceptive cadence to it at m.33/3.

Well Tempered Clavier I, No. 18 in G# minor (BWV 863)

Struggling with *Diabolus in musica*, or: Why the initial pause?

The Prelude. Bach's music is almost always polyphonic. This is true even of his works for solo violin or cello, and it is definitely true of the preludes in WTC. But some of the preludes are more so than others. One can almost grade them in this respect. For example, the preludes 1-4 get more and more contrapuntal. Then e.g. Nos. 7, or 12 are even more so. In most of the preludes, the contrapuntal polyphony is mainly of two voices. Our prelude belongs also to the more polyphonic ones, but it is of three voices. In fact it is almost a sort of a fugue in 3 voices (so is e.g. the next one No, 19 in A major). Unlike in a real fugue, the voices here enter together. They change their roles in m.2, where the bass (B) and the soprano (S) switch roles, and the middle voice (M) repeats its role an octave higher. In the second half of the prelude the main subject is inverted in mm.15-17 in all three voices, M, S, B. The inversion is already hinted at in m.10. The general rhythmic pattern is of 2 beats per bar (and therefore it should not be played too slowly), but one should note the hemiolic effect in the bass of m.24; Notable is also the Neapolitanic second in m.24, 3 bars before the sort of coda (m.27) for, the fugue has a Neapolitanic second in a similar place, just 3 bars before its end. Also relevant to the following discussion of the fugue is the abundance of the tritone (e.g. in mm.1/4, 2/4, 8/4, 13/4, 15/4, 25/1, 27/2).

The Fugue is quite enigmatic: it seems to be a "simple", relatively short 4-voices fugue, with a quite clear structure, and with no inversions or strettos. The four voices enter (T, A, S, B) in a fairly standard exposition (1-9). It has two counter-subjects, the first being closely related to the main subject, and is actually derived from the ending of m. 1.

The subject (mm.1-3) can be naturally read as having three motifs: the first ends on the first quaver G# of m.2 and is basically the neighbor tone move G#-F##-G#, reminiscent of the same move in the bass of the prelude-subject; the second is the half-tone C##-D#; the third consists of the II-V-I cadence, ending on the first D# of m.3. All three motifs are obviously traceable in the sequel and sometimes treated separately in the episodes. The half-tone of the second motif is itself a sort of inverted echo of the first two tones (G#-F##) of the first motif, and is very important in the sequel: see e.g. the passage from m. 8 to 9, 9 to 10, 10 to 11 and all similar places, and then in m.17. So, as exemplified in these remarks, there is much to say in favor of this reading.

On this reading, though of course a masterpiece, the fugue is relatively simple and straightforward, in comparison with most fugues of the WTC. Yet, I said it is enigmatic, and this is because it is doubtful whether this reading is correct. The subject is dominated by the tritone G#-C## at the beginning of m.2. This is missed or played down in the above reading. I have read an internet article by Timothy Smith, defending Tovey's opinion that this fugue is in fact one of the greatest in WTC. Smith rightly focuses on the importance of the tritone, which was called "*Diabolus in musica*" or "the diabolic interval", G#-C## (in m. 2) of the subject, and on its treatment in the course of the work. This interval, he says, particularly when based on the tonic, is rare in Bach, and is especially strained.

Now, when a tritone is leading directly to its resolution and its upper tone is a leading tone, it is not rare in Bach's melodies – in fact quite common (see e.g. Fugue no.1 in C major m.19/4; cf. also prelude no 8 in E-flat minor, m.20). In harmony it is of course constitutive in 7th and diminished chords, and occurs often also as a passing chord. Amongst Bach's 370 harmonized chorals, there is hardly one in which a tritone doesn't occur in some such function (see also e.g. the above places in the prelude). It could be argued that this in fact is the case in our fugue, and the tritone always function there in this way, and therefore has nothing special about it. Yet, I think there is much to treating it as special here and to giving it its due weight as the diabolic interval, particularly in light of the abundance and frequency of its occurrences, not only in all 12 entrances of the subject in this short piece, but also in the episodes (e.g. in mm. 21-24; 28-31) and of course in many 7th and diminished chords (e.g. m.5/3, 6/4, 10/3, 16/4 etc.).

A feature of the rhythm (which Smith surprisingly doesn't mention) also supports this. The subject, written in 4/4 metre, begins with a crochet pause, which makes the rhythm always falling heavily on the beginning, the lower point, of the tritone. In order to appreciate this initial pause imagine the subject beginning on the first tone with no pause; the tritone would then fall on the weak beat. The pause Bach begins with gives the tritone much more significance. This supports the second reading and goes against the first reading, which breaks the tritone by separating the G# (as the end of the first motif) from the C## (as the beginning of the second).

On the second reading the two constitutive motifs of the subject are what may be called "the diabolic motif" (up to the third quaver in m.2), and the "cadence motif" (from there to the D# in m.3), with its typical II-V-I harmony. Both are extremely important throughout the work. I need not expand on the emotive and almost symbolic significance of the diabolic motif, as its name suggests. But one should also note the significance of the cadence motif: It suggests a choral cadence, and, as quite typical in Bach, it expresses a sort of religious security and fidelity. (Let me remark that this dictates a quite slow tempo and avoiding a staccato on the cadence motif, which many performers do.)

The juxtaposition of the diabolic and the cadence motif in the subject and throughout the piece, suggests a feeling of struggle between two opposing (religious) forces or feelings. This, I believe, is a key to understanding the fugue and to its proper performance. It can also explain its seeming simplicity, in lacking the quite regular contrapuntal maneuvers of inversions, strettos etc. The point here is the ideological or religious struggle, and it is presented in its purity, which is enhanced by the seeming simplicity of the fugue.

The countersubject (from the second crochet of the lower voice in m. 3) obviously derives from the second half of m.1. But it expands it by a sequence of three upward repetitions in a way that suggests tension and anxiety – as if someone is anxiously watching the great struggle between the big forces. This countersubject becomes of course also an important element in the course of the work and is intermingled with both the diabolic and the cadence motifs. Fortunately for the anxious watcher and for us, the fugue ends in what can feel as a victory of the cadence-motive, stating and fortifying its prevalence from m.34 to the end.

Well Tempered Clavier I, No. 19 in A major (BWV 864)

Fuga buffa, or a game of small deceptions.

Music understanding involves forming (right) expectations. These are formed on every turn, almost continuously. They are sometimes satisfied, and sometimes frustrated and falsified, where other expectations are then formed, satisfied or falsified, etc. Forming such expectations, adjusting and changing them as the music proceeds is the heart of understanding the music, and of moving with it. Musical deceptions, are of course part of this process of expectations and their frustrations. This is true of any piece of some value in classical music. It is often concealed and covert, and we often pass it by, not being conscious of it. But sometimes it is more conspicuous and overt. Our prelude (and fugue of which we shall talk later) is a case in point. To begin with, we expect here a prelude to a fugue, but that is soon frustrated, and we get a highly contrapuntal work, which is almost a fugue in itself. One almost feel like saying here, Hey, master, you forgot the prelude, and began right with the fugue... This of course is, as we shall see, not really so. The master did not forget anything, but the "deception" is there.

This charming elegant **Prelude** is special in being a sort of a fugue in 3 voices – soprano, bass (m. 4) and tenor (m. 8/) in that order. "Sort of" because it is not a regular fugue in that the subject comes immediately with an accompaniment in the bass. It is in this respect more similar to some of the 3-part inventions (sinfonies). Besides this general surprise of having a fugue instead of a prelude to a fugue, it has its own little deceptions, as e.g. the turn to the VI at the end of the exposition. We would expect a resolution to the tonic at the end of the third entrance of the subject at m. 11, but are led to the VI (F# minor), first in touching, and then in a real cadence at m. 14.

There are many other features that are worth noticing. For example, the chromatic descent of the bass in (m.1-2: A-G#-G-F#) is echoed in the upper voice of (m.2-3); it then enters in the middle voice of m.4-5, where we have three voices even before the entrance of the subject in the third voice. The second sub-phrase of the subject in the upper voice (from m. 2) is a sequence of the inverse of the beginning of the first sub-phrase of the subject. The episode of (m.14/-17/) derives from that of (m.6/-8); The sequence of appoggiaturas at the upper voice there derives from the appoggiatura of F#-E of the first phrase (m.1). The closing section consists of two entrances of the subject on the tonic: in the bass (m.17/) and the soprano (m.20).

The **Fugue** (in 9/8, 3 voices) is very special, and is again full of surprises and deceptions. With all its sophistication, it is perhaps the most funny and whimsical piece in WTC and even in Bach in general - a *fuga buffa* if we may fall it so. There are many kinds of humor in music: some have to do with the acoustic nature of the tones and funny associations connected with them. This is evident in abundance in our fugue from the very first note and throughout. Some have to do with surprises, deceptions and frustrated expectations. These have many kinds and degrees, from the most banal to the highly sophisticated, which require good deal of knowledge and learned expectations. Our fugue abounds with these. Let us see some examples. We would expect, in a fugue, a real subject at the beginning, which is usually a proper melody entered in one of the voices. In

our fugue, the subject, however, is nothing of the sort, and is very unusual. It begins with a quaver A, standing alone and followed by a pause of 3 quavers. It is in fact unique in the corpus not only in the sole and detached beginning quaver A, which is in itself surprising enough, but also in not being a real melodic phrase. It rather consists of a long sequence of leaps of fourths (probably taken from the bass of mm.2-3 in the prelude), quite funny in themselves, but even more so when conceived as a subject of a fugue.

But the great secret of this "subject" is that this is combined with a remarkable **rhythmical sophistication**, full of little deceptions. In fact, it is a sort of hemiolic play of a rhythmic ambivalence between 2 and 3, which governs much of the work. We talk of hemiola where a rhythmic pattern of 2 is superimposed on that of 3, or the other way around. This often creates a sort of rhythmic ambivalence between the two. This ambivalence is an important strand throughout the fugue. It is in fact manifest in the subject itself, which at least until the middle of m.3 can be heard in 2 as well as in the written 3 (the unit of the metre 9/8). Its sequence of leaps of fourths may even tend us to the double metre, while it is in fact a triple one (this is even clearer in the bass leaps of mm.33-34). This gets a real hemiolic flavor right at the soprano of m. 4-5 in which the ascent E - F# - G# - A in the soprano proceeds in crochets against the triple accompaniment of the middle voice and of the subject in the bass. This rhythmic ambivalence is magnified in the soprano leaps of m. 16, and even more so in the descent of a fifth (B-E) in the soprano of mm. 18-20 (also in m. 22 and more). This is emphatically magnified in the clown-like leaps of mm. 46-8, where the line C#-D-E-F# is crossed over between the voices, and in the syncopations of mm. 47-48. The crossing of voices here is probably taken from that in the prelude (m.21) between the bass and the middle voice. One should also note the little stretto on a sort of an inversion of the subject in the upper voices in mm. 20-22.

Bach is reputed of being the great master of counterpoint, and this notion is usually confined to the realm of melody – to the superimposition of melodic lines over each other. But one can, somewhat metaphorically expand this notion of counterpoint to other musical dimensions. Our above remarks can suggest such an expansion to the realm of rhythm. The ambivalence we talked about is a sort of a "rhythmical counterpoint" – the imposition of one rhythm over another, when both are heard simultaneously. The clown-like leaps we talked about are sort of another kind of ambivalence – that of the voices, when a melodic line (the C# to E# ascent) is crossed over between the voices (The Webern transcription of the Ricercare from the *Musical Offering* is a famous example).

The above ambivalence may be also reflected in the quite surprising fact – another little deception – that in the exposition there are **four entrances** of the subject, in T, D, T, D (the second of which in stretto in m. 2), which may give the impression that the fugue is in 4 voices, while in fact it is in 3 voices.

One can also talk of harmonic ambivalence, where a passage oscillates between two or more tonalities. There are many outstanding cases of this kind in Bach. An example in our fugue that gets close to this may be somewhat baffling passages with rapid harmonic changes, e.g. in mm.11-18 of the first episode, which alternate between F# minor and B minor, ending up on E major (m. 20), which are the secondary II, V, I

degrees of the dominant E. So, we have in this magnificent *fuga buffa* a multi-dimension counterpoint – not only in the melodic lines, but also in the rhythm, harmony and voice-crossings.

Well Tempered Clavier I, No. 20 in A minor (BWV 865)

Inversions and strettos within symmetrical structures

The fugue is long and complicated; the prelude in contrast is one of the shortest and simplest. It is in general often presumed that there is no connection between the preludes and fugues of the WTC (though there are obvious exceptions e.g. the a minor of WTC II). But in our case the contrast is I believe significant and perhaps intentional.

The Prelude in 9/8 is built on triads of a relatively simple harmony and is very rhythmical. It passes between the two hands in a simple quasi-fugal manner. Nice modulations to C (m.13) and then through G minor and D minor back to A minor (m.22) are noticeable. The texture is quite homogenous throughout, except for modulatory passages on organ points (mm.17-19), which lead back to the tonic (22). The upper melody of these passages (m.17): E-flat-D-A-B-flat perhaps derives from the key notes of the first four bars of the main subject: A - B - D - A(C).

The Fugue – Our fugue is one of the longest and most complicated in the WTC. It has a long rhythmical subject of three bars of a very solid character. In each bar the rhythm is slightly intensified until the cadencial ending. The subject enters in the alto, soprano, bass and tenor in that order. The descending fourth in quavers (eighths) at its ending forms the basis for the main countersubject, which begins with two such descending fourths which are operative in many of the ensuing episodes and expositions. The thematic connection between the main subject and the countersubject and the smooth passage between them is typical and recurs in many fugues. Sometimes, as we have seen, the ending of the subject even forms a part of the countersubject (No. 18 in G# minor). In its sequel of the countersubject some tensed syncopations are introduced (6), which are also operative later in the course of the fugue (e.g. mm.39-40, 71-2).

The fugue can be seen as a sort of a **double fugue**, i.e. as having a double exposition (~14+14); the second part (mm.14-27) is on the **inverse** of the subject. This second part can be regarded, and is often regarded, as (the first) part of the development. This is quite natural due to its harmonic structure (see below) and contrapuntal richness right from its beginning. And yet, in light of its length being like that of the exposition (with a slight shortening), and its structural symmetry to the exposition – where four entrances of the inverted subject, in the four voices, are introduced – as well as the fact that the subject and its inversion are both treated and operated on (sometimes simultaneously) in the sequel, and that a cadence on the tonic clearly marks the end of this part, I think there is much sense in regarding it as a sort of a second exposition.

The inverse (I) begins (m./14) in the soprano as if in A and then turns to end on G. Then it comes in the tenor (m.18) ending on D minor, the bass (m.21) ending on C, and the alto (m.24) ending back on the tonic A minor. So, its complex structure notwithstanding it begins and ends on the tonic A, like many regular expositions. There is also an interesting peculiarity in the cadences of this second part of the exposition. In m.18 the cadence on G is particularly emphasized, though from a contrapuntal point of view it is not a marked point – it is just the end of the first entrance of the (inverted)

subject, before its next entrance. Peculiar is also the partial cadence to D minor in the upper voices of m.21 which falls in the middle of the third entrance of the subject (inversed) in the bass (cf. m.73; also fugue I, m.19). One could expect the subject to enter here two crochets later, after the cadence, but, as noted, it begins (in the bass) before it (which also makes this part a bit shorter than the first). This inserts a tension between the harmonic structure, marked by the cadences, and the flow of the contrapuntal progression. So we have here, in the second exposition, three modes of the relationships between the harmonic cadence and the entrance of the (inverted) subject: a) the subject enters after a full cadence (m.18); b) the subject enters just before the cadence (m.21); the subject enters within the melodic flow without a marked cadence (m.24). This whole section begins after a full cadence (m.14) and ends with a full cadence to the tonic (m.27).

I have read somewhere (though don't remember where) that significance is ascribed to the fact that 14 (the number of bars of the main exposition) is the numerical value of the name BACH. We have already seen in relation to Fugue no. 4 in C# minor, that Bach used his name (the notes indicated by the letters) as a musical material, and this speculation about the significance of 14 here may also be a case in point. Though this may seem just a compositional fun, it may also have a deep significance: It may mean that Bach thought of himself as being "in" the composition, somewhat as God, according to the Christian Nicene teaching, put himself into the world in the incarnation. This, as often in Bach, is not arrogance, but the very opposite: it is Christian humility of believing himself to be just a means or medium of God's manifesting himself in the creation (the work). We shall later relate this idea to some of the most important contrapuntal features of the fugue.⁴ Whatever we think of this religious meaning of the numerology here, the sophisticated contrapuntal symmetry of this double exposition is most impressive. Moreover it is further exhibited in the sophisticated symmetry of the ensuing development, with its abundance of strettos of both the direct and the inverted forms of the subject.

The **development** (from m.27) is particularly rich in strettos, of two quarters phase, almost all on the octave. It is symmetrically organized, consisting of two groups of four entries of the subject (each forming a secondary exposition according to the above terminology) introduced in two couples of strettos – the first group is of the direct form of the subject, while the second is of the inverted form. In its first half – two couples of strettos of the direct subject (D); in its second part (from m.48) – two couples of strettos of its inverted form (I). It is then condensed, again symmetrically, so that the direct stretto, in bass and tenor (64), is immediately followed by a stretto of the inverted form in soprano and alto (m.67). These two strettos are the only full ones that are not on the octave, but rather on the fifth. Then follows a combined triple stretto of the first part of the subject: the tenor voice – in the inverted form, and the alto, followed immediately by the soprano, in the direct form (mm.76-77). The tenor-alto phase is of a complete bar, and the soprano-alto phase is as usual of half a bar or two crochets (quarters). The tenor enters

⁴ 14, let me remind you, is the number of notes comprising the subject of the first fugue (in C major) of WTC, the subject with which WTC begins.

with the first part of the inverted subject. The alto enters in stretto with the first part of the direct subject. Then comes the soprano in stretto of two crochets, which is even more abridged. In the ending before the coda, after the dominant fermata (80), a stretto of the direct form is regained (again with a slight change in the ending), terminating with a dominant cadence to the tonic A (with a Piccardy third). In the beginning of the coda (mm.83-84) there is a condensed "summary" of the preceding stretto work: all four voices enter in stretto (of two crochets), first a couple of the inverted form and then a couple of the direct one – bass (I), alto (I), soprano (D), tenor (D) – all over a sustained organ point of A in the low bass (the very last bar is written in fact in seven voices). This, by the way, suggests that Bach thought of this fugue to be played on the organ, for this cannot be strictly played on the harpsichord or piano. We thus see that both direct and inverted forms of the subject are treated almost equally, which supports our above hypothesis of a double exposition.

These features, and many others we haven't touched on are great technical achievements and manifest compositional potency of the highest order (if we are allowed to say it on Bach). But they are not only that. In our fugue, as in Bach in general, they are imbued with great expressive power of a variety of musical faces, gestures, feelings and emotions, and are organized in a dramatic structure, both fascinating and convincing. But even that is not the end of the story. They may have meaning that transcends the technical and emotional dimensions and touch on a spiritual and religious sphere. This may be connected to the above numerological meaning of 14, though this admittedly is quite speculative. Let me hint at what I mean.

Stretto and inversion are, of course, forms of imitating or copying. When a subject is inverted it is in a way imitated: its interval-structure is maintained, but in the opposite direction – rising intervals become falling and vice versa. Stretto is strict copying of a subject or motif in a different voice, possibly in a different key, entering before the first one ends, so that they overlap (a canon is a familiar kind of stretto). It is not only that in both forms a subject is imitated or copied; it is accomplished within the severe constraints of harmony, counterpoint and rhythm. To attain this the subject must carry the possibilities of these imitations in itself – they are inner features of it and its structure, though this, of course, is not always overt and may need expert musicianship and exceptional talent to realize.⁵ And this is doubly manifested when, as in our case, we

⁵ Schoenberg once remarked that the subject of the *Musical Offering* (the so called "Royal Theme") is particularly difficult for fugal treatment just because these possibilities are so hidden in it. It took a Bach to uncover them, and even he needed some time for doing it properly. Bach, according to the famous story, was invited by the King (Friedrich II, the Great) and was asked to improvise a fugue on the subject the King gave him. The challenge was enormous. Bach improvised a 3-voice fugue, and was then asked to improvise a 6-voice one. This was too much, and he said it would take him some time to prepare. Schoenberg found it hard to believe that this subject was invented by the King, and speculated that the subject was intentionally so invented by Carl Phillip Bach (the court musician then), who would know how difficult it was to improvise a fugue on it (I find it hard to believe that Carl Philip would think of failing his father on such a festive occasion, but Schoenberg thought he did...). In any case, Bach didn't improvise the 6-

have strettos not only of the subject, but also of its inversions, and even more so when we have combined strettos of the direct and the inverted forms together.

Bach is reputed for having a rare, perhaps unique capacity to realize and uncover these possibilities within a musical subject, and our fugue is a fine evidence for this.⁶ But for Bach this had also a religious significance, even irrespective of the above numerological and similar considerations. Realizing, revealing and unfolding the possibilities of development inherent within a subject were for him in a way like the *potentiae* revealed in incarnation of the deity. There are reasons to believe that Bach saw himself as a medium for that in music, and the numerological "tricks" of putting his name into his music may have expressed this for him.

voice fugue, and (luckily for us) a couple of months later sent the King the *Musical Offering*.

⁶ Besides his music, which is of course the best evidence, Wilhelm Freidman, Bach's eldest son, who was a reputed composer, witnessed that on hearing a musical subject Bach would immediately point out various contrapuntal and harmonic possibilities inherent in it.

Well Tempered Clavier I, No. 22 in B-flat Minor (BWV 867)

Religious Christian meditating

On several occasions we have talked of the Christian religiosity that shines through Bach's music. **Our Prelude** is an example. It sounds like a solemn Christian procession – serious, heavy, measured – in which a person is meditating his private individual thoughts.

Its main theme is a 4/4 progression of dense harmony with thick chords accompanying a simple melody consisting of a sequence of rising thirds to a thrice repeated tone in a constant rhythm and texture. At the beginning of the prelude and towards its end this is based on long pedal points on the tonic (mm.1-2) and dominant (mm.20-21). The prelude has a clear structure of A(1-5) - B(5-7) - A'(7-13) - B''(13-20)- A", where the Bs are sort of interludes based on inversions of the main motif of A, relaxing somewhat the pace of the harmony, and inserting a more dialogical texture. Many features of the harmony, with which we cannot deal here, are worth noticing, for instance, the "local" suspensions of resolutions with neighbor tones (e.g. the beginning and middle of m.2, 20) are largely augmented to cover the whole first interlude (mm.5-7).

The Fugue – The subject of our fugue is quite peculiar in consisting of two separate and very different motifs: the two minims of m.1 and the eight quavers of m.2-4/1. Many of Bach's subjects are "peculiar", but they are peculiar in different ways: some contain unusual intervals, like the diminished fourth of No. 4 in C# minor, or the tritone of No. 18 in G# minor; some have a strange texture and rhythm, like No. 19 in A, etc. In fact, there are so many "peculiar" subjects in Bach that being peculiar is almost the norm, and the peculiarity of our subject is an example, though not a very dramatic one.

Though it is a 5-voices fugue, it is quite sparing in the contrapuntal devices it uses – it has no inversions, retrogrades, augmentations etc. except for two strettos: short one of two voices of only the head of the subject (m.50-52), and a much bigger one of all the 5 voices, towards the end of the fugue. In addition there is an entrance of the subject in the two middle voices in parallel (mm.55-58). Except for No. 4 in C# minor it is the only fugue in 5 voices in WTC. We have expanded on the religious Christian significance of the number 5 in relation to that fugue and shall not repeat it here. The main subject is in fact up to the F of m.4/1, for the continuation varies in the various voices. This makes it of 10 (2x5) tones. The five voices enter on T-D-T-D-T and the exposition ends on the relative major, D-flat (m.25).

Though it is often said that there is no musically significant relationship between a prelude and its fugue in WTC, our couple, I believe, is a counter-example. Notable in the counter-subject of the fugue is the sequence of rising thirds, recalling the main motif of the prelude, first in quavers (m.4/2) and then augmented to full crochets: E-flat-F-G-flat (/6-7), F-G-A-flat (8), G-A-B-flat (/9-10), A-B-flat-C (11). The general ascent from F (m./5) to C (m./11) links it even more tightly to the prelude in which we encountered the same ascent (prelude, m./2 to 5). From this high point (C²) it then drops down a whole octave of B-flat, the last third being in whole notes (mm.15-17). It then modulates to a full cadence to the relative major, D-flat (25).

The ensuing section (mm.25-42) displays five free entrances of the subject in all five voices pulling in general to E-flat, and then, through A-flat, to D-flat (m.42). There are as usual many entrances of the subject (22, some of only its head), and special attention should be paid to the way it uses and handles elements of the various counter-subjects, e.g. in mm.28, /33-7, 42-48. Towards the very end there is a condensed 5-voices stretto of a single minim phase (mm./67-71) – the only full stretto in the fugue. The long B-flat in the middle voice of mm.30-35 may suggest that the work was in fact written for the organ, for it cannot be properly heard on the harpsichord or even the modern piano. Whether played on the organ or not, the image of the organ sound fits the general character of this fugue, which is of wide dimensions – as if one is looking at very far distances and speculating very deep thoughts.

Well Tempered Clavier I, No. 23 in B major

Solid symmetry on many levels

The prelude and fugue in B major come in between the two gigantic ones in B-flat minor and B minor, and in many ways stay in their shadow. But Bach's fugues shine also when in the shadow...

The Prelude is a relatively simple flowing piece in 3 voices. Its subject is built on a sequence of short motifs rising in a fifth (B to F#) in the upper voice, immediately answered in an augmented form by the descending fifth from C# (m. 3) to F# (5/2) in the soprano. The diminished F# chord in m.7 hints at a G# minor at m.7/4, which is further established in 10/3. This opens up a sequence of modulations down to a cadence to B at m.15. The bright descending thirds in the soprano of mm.10/4-11 are augmented inversions of the rising third in the short motif in the soprano of m.1. The ending of bar 12 in the bass inverts the parallel place in bar10. Also notable are the inversions of the subject in the soprano of mm. 15-16 (where the ending is with the regular form), in the middle voice of m.17, and in both upper voices in sequence in m.18 followed by the regular form in the bass at the very end of the prelude(19).

The Fugue is in four voices and is also relatively simple and flowing. The subject is a solid melody around the tonic. It displays a solid symmetry of two parts, each of one bar. Its head begins as a sort of augmentation of the short opening motif of the prelude, and its tail echoes the bright descending third of mm.10-11 of the prelude.⁷

Symmetry characterizes also other features of the fugue. It has an obvious symmetrical structure of entrances of 4:2:2:4. The exposition is, as usual, of 4 entrances of the four voices: [T, A, S, B]. Then come two couples of two entrances, the second of which is of the inversion of the subject: [T(11), A(16)], and [S(18), A(21)], and a closing section of again four entrances [B(21), T(24), A(29), S(31)]. The inverted entrances (in the tonic and the dominant), come after a cadence to the dominant, exactly at the middle of the fugue. So, the axis of symmetry of the entrances structure is also the axis of symmetry of the whole fugue.

A secondary subject in m.9 begins as a sort of diminished variant of the main subject; in particular the rising fourth of m.9/3-10 derives from the rising fourth at m.1/4-2. It continues with semi-quavers runs that are derived from those of the counter-subject in the tenor of m. 3-4. Both these elements of the secondary subject become major forces – the major forces – in the following development of the fugue; the first e.g. in mm.13-15, 26. Its semi-quavers runs of m.9/3 in the bass and 10 in the soprano are often combined with the main subject (e.g. m.16). At m.18, when the main subject is inverted in the soprano, these runs of the secondary one are inverted in the tenor, and similarly, in different voices, at m.20. From m.20 the harmony intensifies in modulations which only touches in passing on their solutions and move on sometimes in a quite surprising way: e.g. m.20 prepares the dominant F#, but the entrance in the bass of m./21 is in the tonic B.

⁷ The motivic kinship of the prelude and fugue mentioned above gives reason to similarity in tempo; I would suggest M.M 64-72.

This progression comes to a brief halt in a cadence on the 2nd degree, C# minor (m.26). From there, through the minor dominant (F, 27), the sub-dominant (E, 28), the major dominant (28/3) it gets back to the tonic. This harmonic intensification is combined with contrapuntal interplay of the main and the secondary subjects in a continuous flow, which is characteristic of the whole fugue.

Well Tempered Clavier I, No. 24 in B minor (BWV 869)

12 tones theme – Pure beauty to the point of being painful

This is the last piece in WTC, finishing the whole circle of 24 preludes and fugues on all the 12 tones of the octave in major and minor.

The Prelude is particularly rich polyphonically in three voices. It consists of two parts of different themes, each marked with a repeat sign. In each part the upper two voices play a stretto-like imitation. The bass gives a constant accompaniment in quavers, which is, as usual in Bach's accompaniments, a melodic line in itself. The motif of the first part consists of two rising fourths. This, incidentally, is quite similar to the theme of the four voices fugal section of the prelude No.7 in E-flat major.

The second part, which is a bit longer, has a different subject, dominated by the descending third motif, which is again permanently imitated in stretto and exchanged between the two upper voices. It begins in the minor V (F#), and after establishing it in a cadence (m.27) the pace of the harmony intensifies in a series of sequences with diminished chords paralleled in the intensified chromatic ascent in the upper voice rising to the high C" (m.38) – probably the highest tone on Bach's clavier. From there it gradually descends to a deceptive cadence (m.42). There begins a sort of a codetta in which the two upper voices return to the imitation-play of the rising fourths of the beginning (in slight variation), while the bass moves in a chromatic line that covers the whole 12 tones of the octave on E (except D#, which is "compensated" for in the upper voice (m.6/3) . Note the tritone leaps in the upper voice in mm.43-45.

The Fugue - It is of course quite moving to play the last notes of WTC and see "Fine, S.D.G." at the end. But this fugue (one of the longest in WTC) is known and loved mainly for its beautiful gloomy subject, which is one of the longest and most complicated in WTC. It consists of 20 tones all (except the last) in quavers, in measured steps of half tones, including all the 12 tones of the octave (four occurring more than once). Indeed, Schoenberg once remarked that this is the first dodecaphonic work. We have seen before that towards the end of the prelude the chromatic bass also includes all the 12 tones, and this forms a remarkable connection between the prelude and fugue here. It is hard not to indulge in speculations about the meaning of this 12 tones fugue being the one concluding the WTC – as if demonstrating and proclaiming the merits of equal tuning of these 12 tones.

Various elements of the **countersubject** are treated separately after the fourth entrance, and in the sequel, notably the descending fifth in crochets (m.4/4-5), and the semiquavers motif leading up to it (m.4). The descending fifth is of course a filling out of the descending triad at the beginning. Both elements are operative in the course of the fugue. The semiquavers motif is inverted in the soprano of the third entrance (m.9) and then in the middle voice of m.13, while the bass moves in the descending fifth motif, and the main theme enters in the soprano. The exposition ends on F minor (m.17) without a cadence and continues smoothly into the following episode (from m.17/3).

This smooth transition is remarkable also in that the tenor long C# bridges the ending of the exposition with an augmented variation on the descending fifth motif from C# to F# (m.19). This is immediately echoed in the soprano descending fifth from F# (m.19/2) to B (m.21/2). This descending fifth motif is again operative in the descent from C# (m.21/4) to F# (22/4) and in many places in the sequel, thus bonding the countersubject of the exposition with the development.

This episode (mm. 17-21), whose theme is a sequence of rising thirds, is in three voices and it sort of swings in a quasi-stretto manner between the upper voices. It is ingeniously built on a sort of inversion of the subject in the bass (from m.17, and again in m.28). That this should be heard as a sort of inversion may be suggested by the somewhat surprising insertion of the head of the main motif in the tenor of m.19. So, the descending fifth motif of the counter-subject, which was combined with the main subject in the exposition (m.4), is now broadly augmented, and combined, in its augmented form, with a sort of inversion of the subject.

A secondary exposition with an interesting structure follows. It begins (from mm.34-35) with two entrances of only the head of the subject – as if being failed trials at a stretto. This is followed by an entrance of the full subject in the bass (mm.38-40), as if to remind us of it after the previous "failures". Then the same pattern is repeated in an augmented form with three "cut entrances" of the subject (only its head) in mm.41-43, immediately followed by four entrances of the full subject: in the tenor (44-47), bass (mm.47/3-60), tenor again (60/3-63), and bass again (mm.70-73), with a reminder of the cut entrance in the bass of mm.69-70) and in the tenor of the codetta (mm.74-75).

If I am not mistaken this is the only fugue in WTC in which there are no strettos of the subject (except the "false trials" described above). The sort of inversions we mentioned are only "sort of", partial and hidden in an accompanying bass. Thus, Bach refrains here almost completely from playing with the usual contrapuntal maneuvers of strettos, inversions, retrogrades etc. with which all the other fugues in WTC abound. This gives the fugue a beautiful purity, almost to the point of being painful. We used the term "pure" in characterizing also No. 1 of WTC in C major. But there, it was attached to a sort of emotional neutrality, almost sterility. Nothing is further from the truth with respect to our fugue. Its beauty ("to the point of being painful") is in part due to its deep emotional expressiveness. It is sad, but not hopeless; sad in a serious "philosophical" spirit. The simple and modest way in which the fugue, and with it the entire WTC ends is also typical in this respect. In some editions there is at the end "Fine, S.D.G".

Gilead Bar-Elli, Jerusalem, April, 2017