WTC I/1 in C major – Prelude

The first prelude in Bach's *Well-Tempered Clavier* consists of nothing but broken chords. It must therefore be described as determined purely by processes of increasing and decreasing harmonic tension. Effects such as creating an echo in every repeated chord or emphasizing the chords' peak-notes and thus drawing attention to an imaginary melodic line divert from the composer's intention. They would misguide listeners and should thus be avoided.

The sections are clearly discernible by their simple cadential patterns. The first cadential closure is reached in m. 4, the steps leading to it being: m. 1 = I, m. 2 = ii^2, m. 3 = V^6_5, m. 4 = I. Since all structural breaks in this prelude are harmonically defined, this cadence must be interpreted as the end of a first (short) section. The next harmonic progression concludes in m. 11. As the sharps from m. 6 onward demonstrate, Bach now modulates to G major. The final steps of this progression are: m. 9 = ii^7 of G, m. 10 = V^7 of G, m. 11 = I of G. Once again, this harmonic close marks a structural caesura.

There are altogether four sections in this prelude:

I	mm. 1-4	complete progression in C major
II	mm. 5-11	modulation to G major
III	mm. 12-19	modulation back to C major
IV	mm. 20-35	complex, extended cadence in C major

While no portion ever recurs—either note for note or in variation—there is a transposed passage that forms part of a structural analogy: mm. 15-19 are an exact transposition of mm. 7-11 (see the progression I^6, IV^2, ii^7, V^7, I in mm. 7-11 in G major, in mm. 15-19 in C major). In connection with this transposition we also discover that mm. 7-8 are a sequence of mm. 5-6 and mm. 14-15, a sequence of mm. 12-13. In both cases, a two-bar model is repeated one diatonic step lower. The only structural divergence between these two patterns results from the different amount of overlapping with the transposed portion. We can thus confirm the following analogy:

section II (mm. 5-11) corresponds with section III (mm. 12-19);
both consist of
a model of two measures, a descending sequence,
and an analogous cadential close.

All aspects of performance in this prelude reveal themselves by means of this basic analysis. As the composition contains no melodic elements, there are no open questions about articulation or single-voice phrasing; all notes should be sustained for the exact length of their written value. Phrasing between structural sections is best made transparent by varying the degrees of tension. A performer who works on a modern piano will achieve this through dynamic means. (The phrase-ending ritardando, so essential on early keyboard instruments, can be restricted to a minimum on instruments capable of expressing phrasing through dynamic shading.)

The dynamic development between consecutive notes poses the biggest problem. What should be heard in a piece determined by harmonic processes is the relationship between chords, not that between 16th-notes; the notes forming each chord must therefore sound as equal as is humanly possible, and greatest care should be taken to avoid any emphasis on the uppermost pitches.

A very important factor for any sensible performance of the C-major prelude is tempo. This should again be chosen with a view to best convey the harmonic processes. Too fast a rendition easily diverts the listeners' attention toward an apparent display of virtuosity; too slow a tempo makes it difficult to hear more than just one chord at a time.

The only ornament in this prelude derives from an early copy. It appears in m. 34 and serves to emphasize the final cadence by embellishing it. The sign indicates a simple mordent that, since it is approached stepwise, begins on the main note: E-F-E.

As was stated above, the C-major prelude derives its expression from its harmonic progressions. There are, however, two instances in which these are overshadowed by secondary processes. One case is owed to the above-mentioned sequences, the other to a protracted pedal note. The development of tension as represented by all features is as follows:

In the course of the first simple cadence (mm. 1-4), the subdominant function commands the greatest tension. This tension subsequently finds a stepwise resolution via the dominant toward the tonic. The dynamic analog to this process may be described as *p - mp* $^{+}$ *- mp* $^{-}$ *- p*.

The following section (mm. 5-11) brings a modulation to G major, which is reached in m. 11. As the section opening contains a sequence, the priority of mere harmonic relationships between consecutive chords is temporarily suspended. Within the first two measures, the harmonic relationship between the inverted A minor and D^7 chords (mm. 5, 6) constitutes a rather strong decrease in tension. (This can easily be experienced when listening to the two harmonies, preferably when played as block chords).

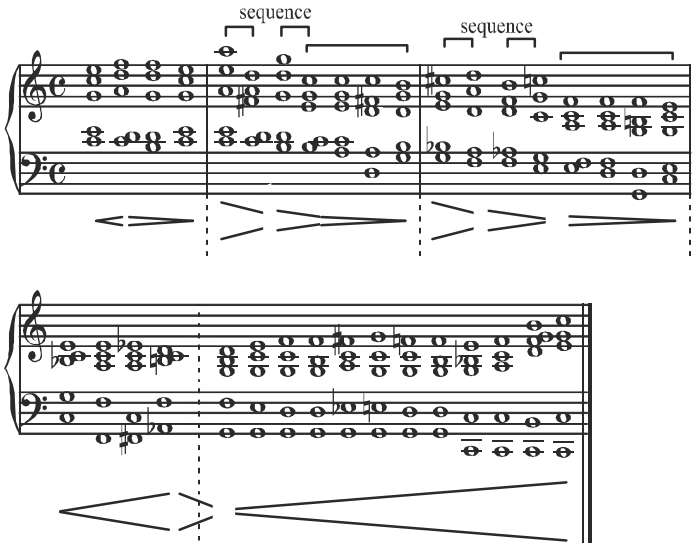
In keeping with the law defining dynamics in sequences, the same relationship must apply to the following two chords, on a softer level because the sequence descends. From the last chord of the sequential pattern onward there follows a further gradual release of tension. The dynamic analog to the process in this portion of the prelude may be expressed in these terms: *mf* $^{+}$ - *mp* $^{+}$ - *mf* $^{-}$ - *mp* - *mp* $^{-}$ - *p* $^{+}$ - *p*.

A similar development occurs in the third section. Like the preceding one it starts with a sequence, and again, the relationship between the first and the second chords in the model is one of relaxation. The release of tension is even stronger here than in the earlier sequence as mm. 12 and 14 each consist of a diminished seventh chord resolving onto an inversion of the supertonic (m. 13) and of the tonic itself (m. 15). At the end of this sequence the harmonic tension therefore appears already abated to something very close to the softest shade used in this piece. The following four measures, a transposition of mm. 8-11, should portray a dynamic outline exactly like the one in the corresponding measures so as to assist listeners in grasping this analogy. The concept of mm. 12-19 is thus approximately: *poco f* - *mp* $^{+}$ - *mf* $^{+}$ - *mp* $^{-}$ - *mp* - *mp* $^{-}$ - *p* $^{+}$ - *p*.

The fourth section is almost as long as the first three sections together. The emergence of the dominant pedal in m. 24 serves to divide it into two subsections. The first of these subsections, from m. 20 to the downbeat of m. 24, ends in an imperfect cadence. The harmonic development sets out from the C-major seventh chord (m. 20) but then leads away from the tonic in bold steps. The process includes two diminished-seventh chords; in addition, there is a hint of an independent bass line, which enhances the sense of urgency. Upon closer inspection, the end of this bass line reveals a circular movement preparing the beginning of the pedal note by sounding both the natural leading-note (from the semitone below) and the artificial one (from the semitone above) to the dominant keynote G. The audacity of these harmonic steps can best be conveyed in the following dynamic plan: *mp* $^{-}$ - *mp* $^{+}$ - *mf* $^{+}$ - *poco f* $^{+}$.

After this forceful increase, the next subsection begins with a sudden hush to a level hardly above piano. From here the pedal note takes effect. Its typical gradual and smooth dynamic growth continues not only while the bass remains on G but all the way to the end of the piece, thus closing the prelude on something like a triumphant forte chord. The dynamic balance in this section may therefore be represented quite convincingly as follows: *p* $^{+}$ - *mp* $^{-}$ - *mp* - *mp* $^{+}$ - *mf* $^{-}$ - *mf* - *mf* $^{+}$- *poco f* $^{-}$ - *poco f* - *poco f* $^{+}$ - *f* $^{-}$ - *f*.

The graph attempts to show the processes determining this prelude.[1]



WTC I/1 in C major – Fugue

The subject of this fugue is one and a half measures long. It begins unaccented, after what can be called an "implied breath" on beat 1. This creates the impression of a very long upbeat, in which the tension toward the following downbeat is smooth and not very strong.

In its original statement the subject ends at m. 2_3 on E. That this E has to be regarded as the final note of the subject becomes obvious when we compare the first entry with later ones: they either end after this E or its equivalent in another key (see, e.g., mm. 9-10, 10-12), or they continue in a different way each time. The closure is further supported by the subject's harmonic background: the dominant is reached at the beginning of m. 1

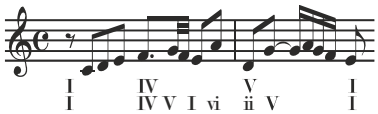
[1]Carl Czerny added an extra measure. He argued that first, it seemed highly improbable, for a composer as conscious of subtle numeric balancing as Bach was, to have written a piece consisting of the uneven number of 35 measures; second, a bass line with a diminished third such as the one in mm. 22-23 seemed melodically incorrect and would therefore require a chromatic link. Czerny therefore inserted a tonic six-four chord to correct Bach's "error," and by doing so destroyed the forceful tension built up here with so much ingenuity.

(on either D or G; the dominant's point of arrival varies throughout the fugue) and resolves onto the keynote-chord on this E. The fact that the first statement is followed by an extension, made up of two sequences of the last four notes, does not change its basic confines but serves to grant a smooth transition from this first entry to the next.

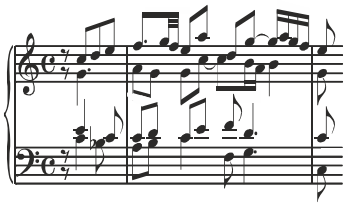
Ten of the subject's thirteen intervals are seconds, and stepwise motion also dominates the fugue as a whole. The few larger intervals, however, confound the picture somewhat because of their particular nature. They do not, as might normally be expected in the context of overall stepwise motion, represent "high-tension" intervals—intervals whose expressive gesture is regarded as blending particularly well with the character expressed by stepwise motion. Instead, the three leaps interrupting the subject's smooth line are two perfect fourths and a perfect fifth, i.e., leaps without particular emotional content.

The rhythmic structure is complex. The subject features four different note values: eighth-notes, dotted eighth-notes (or, in m. 2, the same value written with tie prolongation), 16th-notes, and 32nd-notes. Syncopations are a regular feature throughout the fugue; in fact the fugue comprises only six measures not displaying at least one syncopation.

The question of phrasing in the subject allows for two competing answers, both of which can be supported with evidence from within the composition itself. The choice between them is thus one of individual conviction or interpretation: (a) The overall pitch pattern, showing ascending steps at the beginning, descending steps at the end, and leaps in the middle, supports the option that this subject is conceived as an indivisible phrase. The absence of obvious melodic sequences confirms this view. (b) For interpreters who feel that rhythm plays a crucial role in this subject, there is a pattern that is repeated in slight variation—a sequence-like process revealing the subject as made up of two halves. The first half consists of four eighth-notes moving upward in stepwise motion. They are followed, after a rhythmic prolongation, by shorter note values leading downward. The second half starts similarly with four eighth-notes that, this time, move in jumps up and down but are also followed, after the same rhythmic prolongation, by a group of shorter note values leading downward. The phrased subject would thus be defined by the analogous rhythmic structure of its two segments. This option finds support in a harmonic progression that allows—although Bach does not always compose thus—for two complete cadences coinciding with the two rhythmically determined halves (see



the harmonic progression underlying the subject statements in mm. 2-4 and 5-7). As far as the subtler harmonic progressions from one eighth-note to the next are concerned, there are so many variations throughout this fugue that it is not possible to state one unequivocal solution.



Ludwig Czaczkes in his analytical book on Bach's WTC made his own choice when he reconstructed in four-part texture what he regarded as this subject's harmonic basis.

When deciding on subtle dynamic processes in the subject, the aspects to be taken into particular consideration are the two rhythmic phenomena and their respective harmonic functions: the syncopation is rhythmically stronger, but it falls on the harmonically rather weak tonic-to-dominant movement; the dotted eighth-note is rhythmically weaker but supported by the stronger harmony, the subdominant. The preference of one climax over the other therefore rests on whether interpreters feel the harmonic process more strongly than the rhythmical one, or vice versa.

If a performer chooses option (a) for the phrase structure and reads the subject as a unit that allows for no further subdivision, only one climax has to be determined, which will come smoothly prepared by an increase in tension and be followed by a relaxation. Performers perceiving the subject as made up of two halves (b) have to decide which of them is stronger and, consequently, which of the two shorter tension build-ups is more powerful. In the latter case the subject would contain two releases, with the E at the end of the first subphrase as a transitory solution, i.e., not quite as soft as the final E.

The design of the C-major fugue has often been called programmatic: as the first of a collection of twenty-four fugues it contains twenty-four subject statements. These appear as follows:

1. mm. 1- 2 A	9. mm. 10-12 A	17. mm. 17-18 T
2. mm. 2- 4 S	10. mm. 12-13 T	18. mm. 17-18 B
3. mm. 4- 5 T	11. mm. 14-15 A	19. mm. 19-20 T
4. mm. 5- 7 B	12. mm. 14-15 T	20. mm. 19-20 A
5. mm. 7- 8 S	13. mm. 15-16 B	21. mm. 20-22 S
6. mm. 7- 8 T	14. mm. 15-16 S	22. mm. 21-23 T
7. mm. 9-10 A	15. mm. 16-17 S	23. mm. 24-25 T
8. mm. 10-12 B	16. mm. 16-18 A	24. mm. 24-26 A

Three of these subject statements are varied: The bass entry in m. 17 begins with a rhythmically doubled first note, annihilating the subject's characteristic up-beat character. The tenor statement in mm.14-15 shows a variation at the end, after the syncopation. The soprano entry in mm. 15-16 states only the subject's first half before giving way to a new beginning, which now unfolds as a complete statement in this voice.

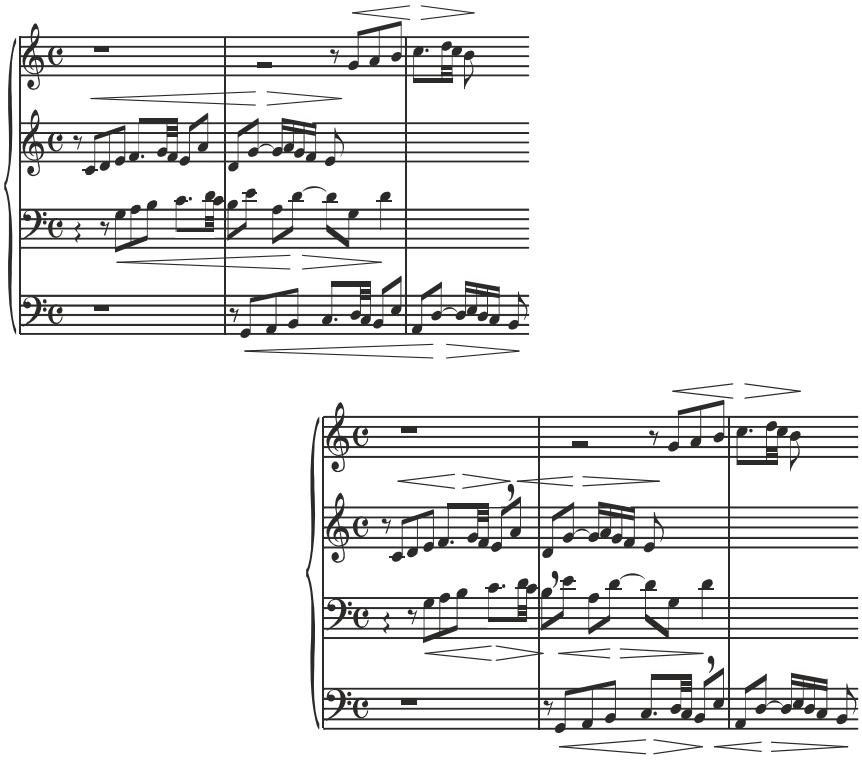
While parallels of the subject are not used in this fugue, stretto is a prominent feature. After the first four entrances, i.e., as soon as each of the voices participating in the fugue has entered, subject statements overlap more often than not. The nine stretto combinations that Bach uses are listed below. (The normal-sized capital distinguishes the respective group leader, i.e., the voice that counts as building the "round." The leader in a stretto can be detected by asking the following three questions: which voice presents the version that is more faithful to the original?, which serves to establish a new key?, or simply—in the absence of other distinctions —which voice enters first?)

Strettos begin in measures				involving voices
7	10			S^{T}, B^{A}
14	15	16	17	A^{T}, B^{S}, S^{A}, T^{B}
19	20-21			T^{A}, S^{T}
24				T^{A}

Interestingly, the first six stretto combinations give a complete account of the six alliances possible between four voices: the soprano is paired with the alto (entries 15-16), with the tenor (5-6), and with the bass (13-14); the alto is further paired with the tenor (11-12) and with the bass (8-9); finally, tenor and bass are also paired (17-18).

The C-major fugue does not feature any counter-subject. In view of the immense density of material created by the twenty-four subject entries, this will hardly come as a surprise. In the absence of counter-subjects, this fugue claims full attention for its strettos. A sketch of the phrase structure and the dynamic design should therefore depict the pattern created in such group statements.

In the two examples below, the entries in mm. 14-16 are rendered in alternative interpretations: the first suggestion shows what happens if the subject is seen as an indivisible phrase climaxing on the syncopation; the second excerpt interprets the subject as consisting of two subphrases, with the climax of the first subphrase stronger than that of the second.



Only twice is the density of the material in this fugue briefly interrupted. As the subject is absent in these measures, they qualify as episodes:

E 1 = m. 13 (last three eighth-notes) to m. 14 (first eighth-note),

E 2 = m. 23 (after the first 16th-note) to m. 24 (first eighth-note).

Furthermore, the fugue ends with two subject-free measures: the last statement concludes on the first 16th-note of m. 26, thus: E3 mm. 26-27. None of these subject-free measures is even remotely related to the subject; neither are there any episode motifs. The two subject-free passages within the fugue are both clearly identifiable as cadential closes. The second half of m. 13 features typical closing formulas in all three sounding voices, leaving no doubt that something is about to come to an end here. In mm. 23-24, soprano and bass once again present those typical patterns while the inner voices join in neutral, quasi-chordal style.

Surprisingly, the ending of the composition avoids all these established formulas. Two measures earlier Bach had already started a tonic pedal, thus making it clear that the piece is approaching its end. Now he allows

the other three voices to continue freely, with harmonic and melodic developments independent of both material bounds and pattern restrictions. One after the other the voices then come to a halt: the tenor withdraws first, upon which the alto becomes less eloquent. The soprano is the last to remain active by running up to the high C.

The final note in the soprano, the high C, deserves a mention. This note has not been previously reached in this composition. As is widely known, it marks the upper limit of the keyboard instruments in Bach's time, just as the prelude's final low C marks the confines at the other extreme. These two tiny details are another hint that Bach, in writing his twenty-four preludes and fugues, aimed to demonstrate in full all that was possible on this instrument.

The dynamic role each of the three subject-free passages plays in the development of this fugue will have become apparent from what has been said above. The two inner episodes serve as cadential closes and thus have a relaxing tendency. The two final measures, on the contrary, succeed in creating something—however small—of their own, thus contributing to a build-up toward a final climax.

Both the overall stepwise motion and the rhythmic structure with its four different note values and frequent syncopations suggest that the basic character of this composition is rather calm. Within the overall frame of this character, the chain of three leaps in the subject adds an element of contrast that should be felt—and played—as such.

The most appropriate tempo is a calmly flowing one: flowing enough so that the quarter-notes, rather than the eighth-notes, are felt as a pulse; calm enough so that the 16th-notes still sound serene. Regarding the relative tempo of the fugue to its prelude, retaining the beat would lead to a somewhat dull result since both the time signature and the 16th-note motion are the same in both pieces. Therefore, a proportion of 3:2 or 2:3 seems better suited. [Approximate metronome setting: prelude beat = 80 or 90, fugue beat = 60.]

The articulation in the fugue is mainly legato. One conspicuous (and regular) exception occurs with the three leaps in the subject, which, being consecutive jumps, must be detached. Similarly, leaps and cadential-bass patterns in non-subject portions of any voice are also exempt from legato articulation.

The fugue contains three ornaments, namely in mm. 13, 18, and 19. The one in m. 18 is indicated in the *Urtext* as deriving from Bach's own manuscript. It is a mordent that begins on the upper auxiliary note and touches down twice on the main note, thus resulting in four regular notes

A-G-A-G. The two other ornaments both embellish typical soprano closing formulas. As the *Urtext* printing in brackets indicates they do not appear in the autograph but were added in various early copies. Ornamenting this characteristic dotted note in a cadential formula was common practice, and performers should include some kind of embellishment in any case. The simple mordent (as suggested in m. 19 by the symbol in brackets) is a more likely solution in both cases than the compound ornament recommended by the small-print version in m. 13 since an anticipation of the final note in the soprano formula (see A-A mm. 13-14 and D-D m. 19) normally replaces —and thus precludes—a trill with a suffix ending.

The design of the fugue is clearly laid out. Bach orders the voices presenting the subject, and the sequence of single and stretto statements, in a consistent pattern:

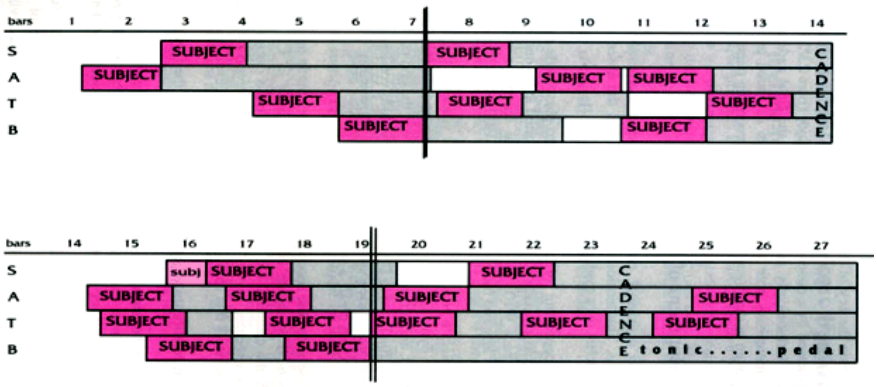
mm. 1-7	entries in all four voices, no stretto
mm. 7-14	entries in all four voices, two with stretto partners
mm. 14-19	entries in all four voices, all with stretto partners
mm. 19-27	two stretto pairs including three of the voices, followed by one repeated ("redundant") stretto pair in the coda.

Within these four groups, the coupling of voices in stretto also seems to follow a plan: the second round joins the "higher" and the "lower" voices in each register (S + T, A + B), the third round groups the adjacent and the outer voices (S + A, A + T, T + B, B + S), the fourth round leaves out the bass completely but uses the next lowest voice, the tenor, in all three combinations.

The complete ensemble is built up four times: The first four entries produce the regular assembling of all voices involved in the fugue (see mm. 1-7: from one to four voices). The ensemble is consequently reduced to three voices in the first stretto statement. In both the following alto entry and the next stretto, one of the voices is resting, so that the full ensemble is again reached at the fourth statement of this group (see mm. 7-13, from three to four voices). After the cadential close in A minor, the ensemble is momentarily reduced to only two voices. This marks the return to C major as a genuine new beginning. The following three strettos then sound in full ensemble (see mm. 14-19, two to four voices). Finally, the stretto in mm. 19-20 that overlaps with the closing formula has the soprano pausing. The full ensemble is restored with the ensuing statement (see mm. 19-27, from three to four voices).

The harmonic progression within this fugue leads first from C major to its relative A minor, confirmed by the cadential close of mm. 13-14. A new start in C major is diverted after four entry pairs to D minor. This key

is again confirmed by a closing formula (m. 19), although the two outer voices alone hold on to this tonal anchor while the two inner parts continue with stretto statements of the subject. As can be seen from both the keys of the stretto group-leaders and the prolonged bass notes (see mm. 19-20: D, 21-22: G, and 24-27: C), the fugue then reverts to the home key, which is confirmed by a cadential close in C major in mm. 23-24. In terms of the harmonic development, the last four measures thus appear as a coda, since the final cadence has already taken place and the tonic bass note sounds as an extended pedal note.



There are several interesting analogies within the four sections. Both the first and the second sections feature a harmonic progression launched from the tonic and followed by entries on the unusual repeated dominant.

mm. 1-5: A (I), S (V), A (V) mm. 7-12: S + T (I), A (V), B + A (V)

The first section's two initial entries relate to their counterparts in the second section (counting again the stretto's "group leader" as the relevant voice) in inversion, as do the third and fourth entries of these two rounds.

mm. 1-7: A, S – T, B mm. 7-13: S, A – B, T

The first stretto of the third section (mm. 14-15) is analogous to the first stretto of the second section (mm. 7-8) insofar as both the pitch level and the distance between the second entry and its leader (two eighth-notes) are identical. The second stretto in the third round (mm. 15-16) appears as an intensified variation of the corresponding second entry in the second round (mm. 9-10), again with the same pitch level. Hence:

mm. 7-10:	mm. 14-16:
stretto (S + T, on C + G)	stretto (T + A, on C + G)
distance 2 eighth-notes	distance 2 eighth-notes
single entry (A) on G	stretto (B + S) leader on G

Finally, the fourth stretto of the third section (mm. 17-19) brings a modulation into a new key, as does the fourth entry of the second section (mm. 12-13); in addition, both the group leader here and the single entry there sound in the dominant of the key of their destination.

mm. 12-13	mm. 17-19
fourth entry of section II	fourth stretto of section III
on V of A minor	leader on V of D minor

The first section shows a gradual, constant build-up of the ensemble without any interruption by episodes. The tension rises steadily but, in the absence of additional intensifying factors, reaches only medium level. The second section, consisting of a twofold stretto-plus-single-entry sequence, indicates a slight twofold relaxation. The first is supported at its end by the closing formula (see soprano mm. 9-10: G—F♯-G), while the second is enhanced by the modulation to the minor key and the ensuing resolution within the cadential close. The third section builds up tension from two to four voices in the densest imaginable stretto setting. The dynamic processes are similar to those in the first section but considerably intensified. Tension reaches its height at the end of this round; here the modulation with its final turn to D major, the Picardy-third version of the expected D minor, with the elaborate cadential formulas and the "impatiently" overlapping first stretto of the ensuing section create a supreme climax. The fourth section resembles the second insofar as it appears made up of two halves. After two entries that modulate back from D through G to C, thus initiating a harmonic relaxation, the cadential measure 23 represents an obvious caesura. The following coda replaces the expected stretto + single entry with a stretto over an extended pedal note, but complements this with two measures of subject-free development.

There are thus striking relationships between the two halves of the fugue: The first section builds up tension. This build-up extends into the beginning of the second section but is then not developed further, owing both to the divided layout of this section and to the regressing harmonic development. The third section builds up tension toward the overall climax of the fugue. This elevated tension is continued into the overlapping beginning of the fourth section, after which it subsides gradually, both because of the divided layout of this section and its softening modulation and cadential close.