Fugal Improvisation in the Baroque Era—Revisited

On material from German sources[1]

By Maxim Serebrennikov

> But the basis for all improvisation must be preparation. If I haven't prepared, I can't improvise. If I've made careful preparations I can always improvise.
>
> —*Ingmar Bergman, 1968*

The question of fugal improvisation in the Baroque era has been raised in the pages of musicology literature more than once.[2] It still remains topical today; yet in the practice of Baroque improvisation, the improvisation of fugue has rarely become an object of independent study. Besides William Renwick's book, *The Langloz Manuscript: Fugal Improvisation through Figured Bass* (2001), it is difficult to name any widely known work that is specifically dedicated to the art of fugal improvisation in the Baroque era.[3] Much valuable and interesting information about this performance practice of baroque musicians is scattered throughout various books and articles, whose subject matter is not even directly related to improvisation.

The present article therefore aims:

1) to summarize the existing research on *partimento* practice;

2) to describe all the stages of fugal improvisation, beginning with the mastery of separate elements and finishing with an organization of the whole, as recorded in German sources of the first half of the 18th century.

Introduction

Today the ability of an academically trained musician to create "on-the-fly" is thought of as exceptional—for the gifted only. Yet it is well known that in the Baroque era every professional musician was expected to possess this "gift." Within the rich diversity of improvisational genres and forms that made up the standard set for which a Baroque improviser was to be prepared, fugue held the greatest place of honor.

> At that time it was not just the great musicians who were skilled at improvisation; every church organist had to be able to improvise a fugue on a given theme. . . . The ability to improvise fugue was considered a requirement for every serious musician to such a degree then that the lack of that skill could serve as reason for ridicule. . . . And, although the testing of organists did not always include fugue improvisation, both Mattheson and Adlung think that no one should be taken as an organist who has not proved his right to such a post through the improvisation of fugue.[4]

> In the 18th century if you couldn't improvise you couldn't call yourself a keyboard player. Worse than that, you couldn't get a job, since all organist auditions required extemporaneous performance of a fugue on a given subject.[5]

Truly, the ability to improvise fugue was a necessary skill for organists, because a fugal statement of musical material was stipulated by the very program of the liturgical service. Beginning in the second half of the 17th century, the role of the organist, on whose shoulders rested the burden of the musical life of the church, grew remarkably.[6] The organ, which had at one time humbly accompanied church ritual, became a most important attribute of the church service—almost its main participant. This was especially true in the northern regions of Germany, where the organ gained such acoustic strength and richness of register that it became like "a second minister," and the musical compositions that it "delivered" were self-contained "texts" addressed to the congregants. Mattheson emphasized that fugal presentation of the chorale subject on the organ helped "to arouse reverence within the listeners."[7]

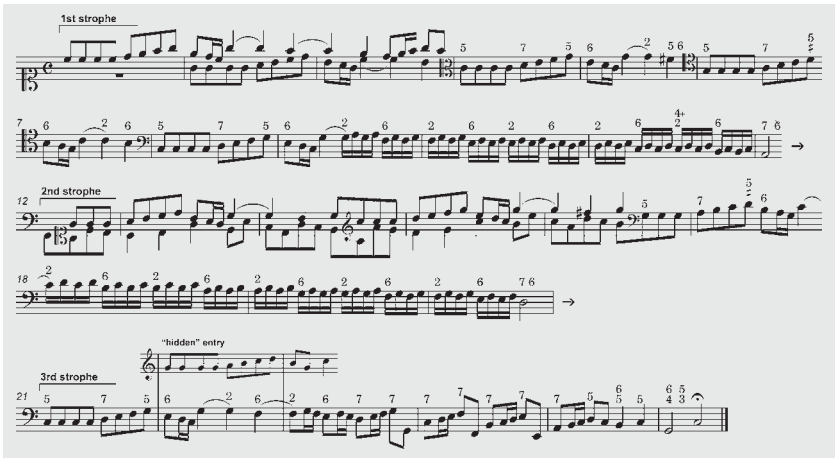
For musicians in the secular sphere, fugal improvisation as a skill was not as necessary as it was for church organists, but the ability, nevertheless, was always appreciated. In the circle of experts and enlightened amateurs, fugal improvisation on a subject proposed by someone among those present could become one of the most intriguing and entertaining elements of a musical program. Success in such improvisation provided the performer with the established reputation of master of the highest order (a reputation that could help in a further promotion).

Although fugal improvisation was a widespread practice among Baroque musicians, we are forced to gather information on its technique literally in bits and pieces. As early as 1702, Andreas Werckmeister, in his treatise *Harmonologia musica*, points out the reason: "many musicians are secretive and reticent with their knowledge."[8] Possibly, musicians divulged their knowledge about improvisation very unwillingly because they considered it a unique commodity, providing a constant supply of students. Perhaps they did not wish to destroy the myth of the divine origin of the gift of improvisation. In any case, even in treatises that are dedicated specifically to improvisation and *fantasieren*, there are no concrete instructions that would allow us today to understand how fugue was improvised.[9]

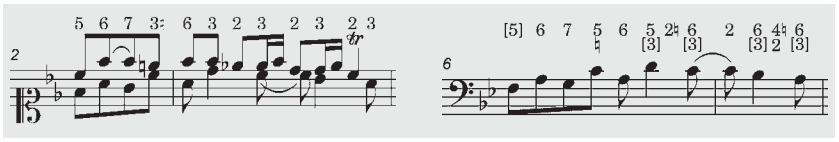
Nonetheless, some secrets of Baroque fugal improvisation have already been revealed by scholars. David Ledbetter writes about one of them:

> By the early eighteenth century, instruction in fugue in Bach's tradition grew out of the figured bass, rather than contrapuntal treatises, and so was approached as an improvised genre. The technique of this was practised by using fugato movements expressed as figured basses, called in Italian *partimento* fugues.[10]

To the uninitiated musician such a statement may seem paradoxical, since according to our notion fugue and figured bass represent distinct types of musical thinking and observe a different tradition of notation. However, the discovery during the last decade of a large number of examples of so-called *partimento fugue* or *thoroughbass fugue* shows that improvisation of fugue during the Baroque epoch—just like the improvisation of homophonic forms—actually had its foundation in the practice of figured bass.[11] The detailed study and comparison of these examples, strengthened by the testimony of contemporary treatises, allow us to take another step forward on the path to understanding the Baroque technique of fugue *ex tempore*.



Example 1. G. Kirchhoff, *L'A.B.C. Musical*, *Prelude and Fugue in C Major*: Fugue



Example 2. Fugue answer + countersubject, and fourth statement (Kirchoff, *L'A.B.C. Musical, Prelude and Fugue in B-flat Major)*

That the overwhelming majority of improvised fugues during the Baroque epoch were thoroughbass fugues can be explained from the point of view of psychology. The texture of a "contrapuntal fugue" (i.e., polyphonic texture) is formed by combining individualized melodic lines, each vying for our attention. In contrast, the texture of thoroughbass fugue is predominantly two-dimensional—that is, it can be clearly divided into the leading voice and a complex of accompanying voices. Consequently, improvisation of a multi-part "contrapuntal fugue" necessitates the division of attention into three or more channels, whereas performance of a multi-part thoroughbass fugue demands division into just two. Experience shows that the attention of even a well-prepared musician is capable of maintaining control over only two (a maximum of three) simultaneously proceeding streams of information.[12] As such, for objective (psycho-physiological) reasons, improvisation of thoroughbass fugue is attainable for a broad mass of musicians, whereas improvisation of a multi-part "contrapuntal fugue" is negotiable to a rare few.[13]

Having touched on the issue of the limits of human attention, which is so relevant to musical improvisation, it would be remiss to ignore the opportunity to quote Sergey Prokofiev, in an interview published by the *New York Times* in 1930:

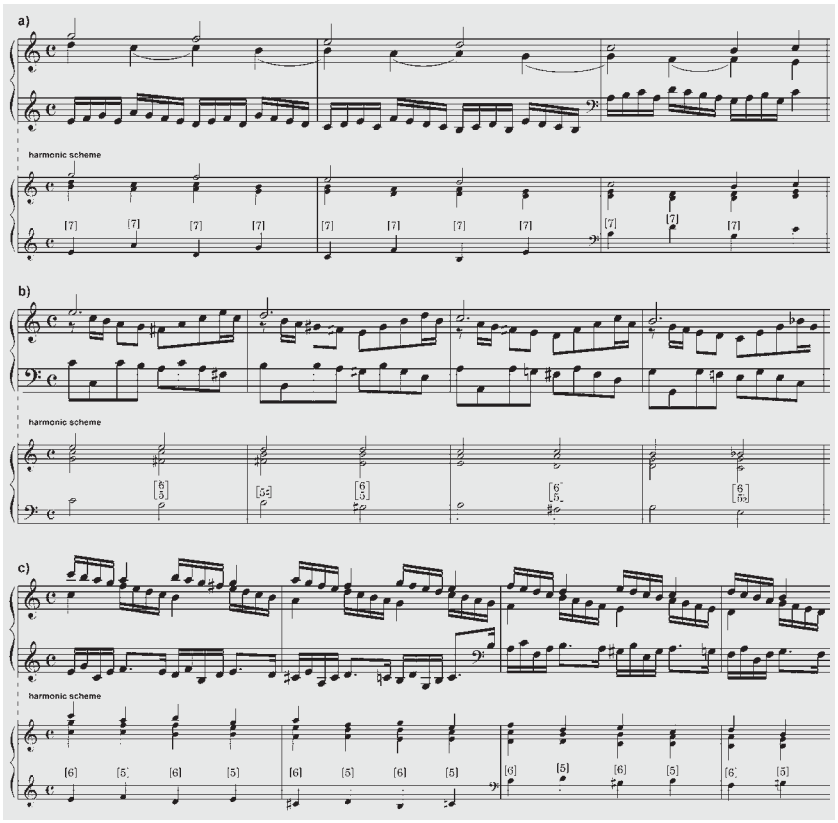
> Three melodies remain about the limit that the average ear can grasp and follow at one time. This can be done when the melodies are clearly sounded and contrasted in pitch and tone color. For a short time the ear may perceive and assimilate the effect of four different parts, but this will not be long continued, if the four parts, or melodies, are of equal importance. Listening to a four or five or even six-part fugue, the ear is conscious, possibly, of the presence of all the voices, but it only perceives and follows precisely the most important of the melodies being sounded. The other parts fill in, enrich the musical background and harmony, but they become as blurred lines of the picture. They are not clearly recorded in the listener's consciousness as separate melodic strands in the tonal fabric. This being true, it behooves the composer to realize that in the polyphonic as well as in the structural sense he must keep within certain bounds.[14]

Such is the point of view of a professional musician who possessed extraordinary musical faculties. As for specialists in the fields of psychology and physiology, they have yet to come to a single opinion concerning the volume and capabilities of human attention.

Analysis

The modern theory of improvisation is based on these principles: 1) "improvisation is based on memory" and "the improviser does not create the material, but builds it from prepared blocks, from long-memorized musical segments";[15] and 2) the improviser always works from a given model.[16]

What were the building blocks that Baroque performers utilized in the process of fugue improvisation? In what sequence could they combine them? To answer these questions, let us turn to concrete musical material.[17]



Example 3. Ph. Ch. Hartung, *Musicus Theoretico-Practicus,* Musical supplement: a) Tabl. No. XLII; b) Tabl. No. XLVI; c) Tabl. No. LXIII

The overwhelming majority of German samples of thoroughbass fugue follow strophic form in their composition.[18] In addition, organization of the musical material inside the strophes is very often based on the typical Baroque-era structure of "head and tail," where the role of the "head" is played by a group of statements (more rarely by a single statement) of the subject and the role of the "tail" by sequence based on standard harmonic formulae of thoroughbass. The conclusion of each strophe is marked by a cadence. Such is the method used by Kirchhoff, for example, in his C-major fugue from *L'A.B.C. Musical* (c. 1734), which clearly presents three strophes (Example 1):

Strophe 1 includes five statements of the subject (bars 1–9), a 2–6 sequence (bars 9–11), and a 7–6 cadence (bar 12);

Strophe 2 includes two statements of the subject in the upper part in immediate succession (bars 12–15), a statement in the bass (bars 16–17) and the 2–6 sequence already used in strophe I (bars 18–20), and a 7–6 cadence (bars 20–21);

Strophe 3 contains a statement of the subject in the bass (bars 21–22), a 2–6 sequence that shifts to 7–7 (bars 22–25), and the more explicit 5–6/4–5/3 cadence (bars 25–26).

The structural similarity among the strophes is evidence of the improvisatory nature of thoroughbass fugue, the result of work that uses a single model. It was specifically the **strophe** that served as the universal compositional unit, by which through duplication the improviser assembled his fugue. The number of strophes was varied, according to how long the improvisation should last. The structure of the strophe, though, did not vary. In this way the improviser's task was to quickly and neatly fill out this preassembled structure with concrete musical material.

Obviously, the improvisation of a fugue had as its starting point the harmonization of the chosen or suggested subject. A harmony, as a rule, was kept for all multipart statements of the subject, becoming, might we say, a retained "counter-harmony" (*Gegenharmonie*).[19] Changes to the harmonization were made only in cases where a tonal answer was necessary. Frequently, even the counterpoint to the answer (the first countersubject) was drawn out of this same "counter-harmony." This is easily affirmed by noting the numeral for the harmonic intervals between the answer and countersubject and then comparing the result to the author's own figures for analogous multipart statements (Example 2).[20]

In many samples of thoroughbass fugue, all entries of the subject are concentrated at the beginning of a strophe. Following one after another without dividing episodes, the statements form a compact thematic group that serves as an entire syntactic unit larger than just a single statement. The tendency toward an increase in the hierarchical degree of unit complexity is another specific quality of improvisatory technique. The combination of smaller syntactic units into larger ones helps to expand the general volume of information accessible within short-term memory.[21]

The similarity among the strophes of thoroughbass fugue is also increased by the uniformity of the order of entries. In all strophes, a descending order of entries of the parts predominates as the most convenient and intrinsic with respect to technical considerations and notation of thoroughbass.[22]

The next syntactic unit of the strophe, following the group of statements, is the **episode**. This section of the fugue was the most comfortable for the improviser, since here he could use patterns that he had learned. Judging from extant samples of thoroughbass fugue, episodes most often consisted of sequential repetition of one, more rarely two, harmonic formulae stereotypical to thoroughbass. This observation is supported by the theoretical works of that time. As such, to attain success in the improvisation of fugue, Philipp Christoph Hartung, in *Musicus Theoretico-Practicus* (1749), recommends learning entire musical progressions, which one should be able to freely and confidently play from memory, and not just read from sheet-music.[23] Many of the fragments he suggests are nothing more than textural elaborations of standard thoroughbass sequences. The thoroughbass nature of Hartung's sequences appears especially clear if we extract their harmonic scheme and supply it by figures (Example 3).

Playing sequences had to become an automatic skill, something that was simply "in the hands" of the performer. The automation of playing skills allowed the improviser to free his attention considerably so as to be directed instead to solving upcoming tasks. In other words, while the hands played out the episode, the mind could be planning out the next set of operations. Given this, the hands had to be able to play for as long as was necessary for thinking out. For this reason, the inert nature of sequential development was not a detriment to fugue played *ex tempore*. The existing unspoken rule in musical practice that the number of segments in a sequence (in the case of exact repetition) should not exceed three was not observed too strictly during the fugue improvisation. Theoretically, there could be any number of segments in a sequence, as it was defined less by artistic needs than by technical ones. In practice, episodes, composed of sequences made of four to five segments, were the norm for thoroughbass fugue.

The unity of thematic material was not also a problem for thoroughbass fugue. The episode could smoothly continue the subject, but could also introduce new musical material. In any case, the primary task of the improviser in moving from one syntactic unit to another was to transition as naturally as possible. It follows then that the greater the active memory capacity of the performer and the more formulae he could recall and have "in his hands," then the higher the likelihood of attaining agreement of intonation between the suggested subject and episodes selected from among those prepared during the process of his musical training. The ability to competently use these preparations from "homework assignments" was very likely a basic craft known to the improviser.

The degree to which the improviser relied upon such materials prepared in advance can be judged by examining, for example, the B-flat-major fugue from Johann Caspar Simon's collection *Leichte Præludia und Fugen* (1746). Of its total 37 bars, 20.5 bars (i.e., more than half) are based on material connected neither with the fugue subject, nor with its countersubject. The especially obvious "home preparations" reveal themselves in the second half of the fugue, which is made up of four autonomous sections resembling, in their function, additions in the tonic key (Example 4). At first, Simon builds a sequence on the harmonic formula 7–7, embellishing the bass line with melodic figuration. He then builds a second sequence on the harmonic formula 2–6 in strict chordal texture. Further, he inserts a toccata-like fragment pulled from the fugue's preceding prelude, a fragment that is also in its nature a sequence. Finally, he concludes the piece with a decisive cadence in solid chordal presentation (*Grave*). Comparing the "specific gravity" of thematic and non-thematic material in Simon's fugue, the conclusion suggests itself. Essentially, if the improviser were not restricted by concrete devices of thematic work, then the entire fugue, excepting statements within the exposition, could be designed from elements prepared in advance.

Judging by some samples of thoroughbass fugue, the "stock" material could penetrate straight into the group of statements, replacing separate statements or pulling them out. For example, in Fugue no. 21 (F major) from the *Langlo(t)z Manuscript*, the second strophe begins not with the restatement of the subject, but with non-thematic counterpoint, and only the bass part enters with the theme (Example 5).

In the D-minor Fantasy from the *Mylau Tabulaturbuch*, a straightforward "home preparation" in the form of a typical sequence 6/5–5/3 appears in the first strophe between the fourth and fifth statements (Example 6a). Viewed separately, this fragment appears optional—since the other statements work successfully without it (Example 6b).

The energy expended by a performer for fugue improvisation could be conserved by using the same episode for various strophes. This repetition could be identical, but it could also be modified by means of various textural clichés. For example, the second and third episodes of the anonymous G-major Prelude (which is in fugue form) from the *Mylau Tabulaturbuch* are based on a single harmonic formula, the 7–7 progression, though the shapes of their

texture are distinct. In the first case, the lower voice is diminished; in the second, the pair of upper voices (in regular imitative counterpoint). Incidentally, this prelude demonstrates direct application of Hartung's aforementioned recommendations: the prelude's second episode (Example 7a) differs from his sequence shown in Example 3a only by key.

The existence of a single stockpile of thoroughbass harmonic formulae inevitably led to the appearance of universal sequences that traverse the pages of thoroughbass literature from one composition to the next, regardless of authorship. Comparison of the episode sections of numerous thoroughbass fugues makes clear that of the great variety of harmonic formulae offered in contemporary thoroughbass treatises and manuals, a precious few sequential patterns predominate: 7–7, 6/5–5, 6–6, 4/2–6.

The manner of sequential motion also deserves special comment. In many samples of thoroughbass fugue, the episodes are based on diatonic sequences that descend stepwise down the scale. On one hand, descending motion step-by-step possesses a certain inertness, which under the conditions of improvisation (i.e., mental and psychological tension and temporal deficit) just plays into performer's hands. On the other hand, diatonic motion step-by-step provides the sequence freedom in the selection of the target tonality. In reality, the great tonal mobility is hidden in diatonic sequence; a trajectory of such a sequence could be easily and organically turned at any moment into one of closely related keys. Here is a small experiment: the test of the key possibilities of a 2–6 sequence from the second strophe of the C-major fugue from Kirchhoff's *L'A.B.C. Musical* (Example 8).

As these examples demonstrate, it is possible to conclude the sequence in any closely related key without applying much effort. Understandably, the target key will influence the length of the sequence. Here it is very important not to lose a sense of balance and good measure. Although the versions represented in Examples 8e and 8f are technically no different than the remaining ones, these two are much less suited to actual artistic use due to their extended monotony. Should Kirchhoff have needed, in the process of improvisation, to expand the fugue by adding another strophe, he likely would have followed version c) or d) in place of the cadence on the C-major tonic.[24]

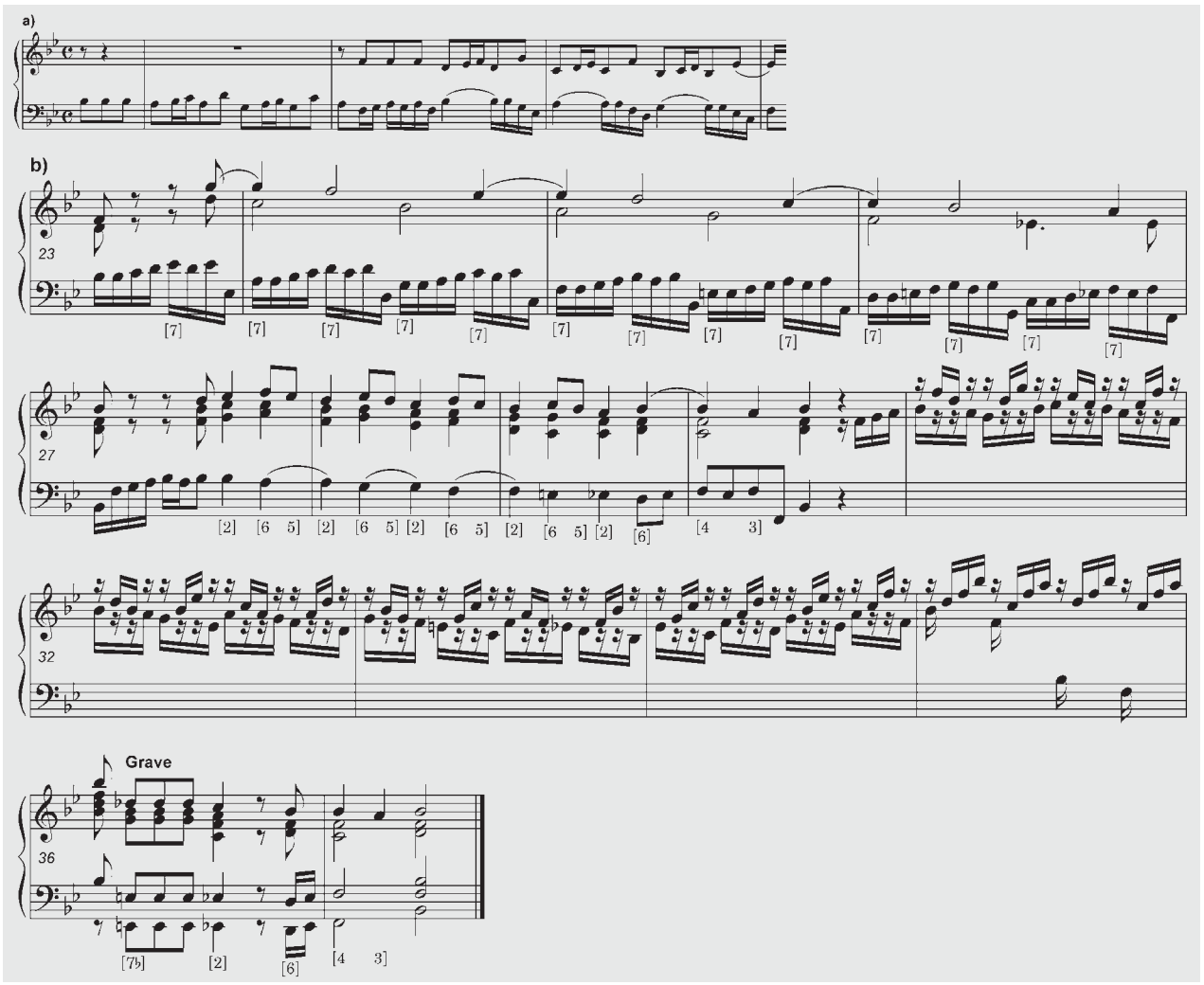
Once the fugue's continuation took a concrete shape in the mind of the improviser, he could stop the potentially endless development of a sequence via the most convenient cadential formula. The playing of cadences (as well as sequences) in any key of the instrument—literally, with closed eyes—was also a necessary skill for every professional keyboardist of the Baroque era. In the opinion of many 18th-century musicians, cadential formulae are the basis, the foundation of thoroughbass; it is specifically this skill that forms the starting point for practical study of the trade. The number and types of cadential formulae varies with each source. The *Precepts and Principals* (1738) attributed to Johann Sebastian Bach, for example, count seventeen patterns among the most frequently used (Example 9).

Immediately following the cadence, occasionally commencing upon its final tones, the new strophe begins and all events of the described process are repeated. The similarity of the strophes imparts to the unfolding of the fugue's form a character of repeated expositions. The formal approach to realization of the strophic scheme inevitably aroused the feeling of monotony, which, naturally, stirred up criticism from contemporaries. Mattheson, who regularly attended testing of organists, wrote:

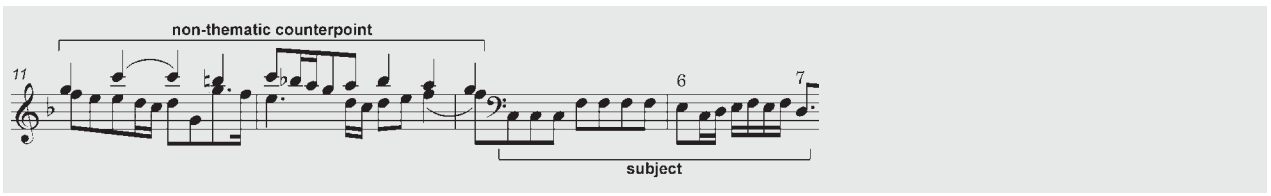
> One should restrict oneself even less to the practice of some organists, who first quite respectably, without the slightest embellishment, perform the theme four times through on the entire keyboard in nothing but consonances and pastoral thirds; then begin again just as circumspectly with the consequent from its beginning; always producing the same tune; interposing nothing imitative or syncopating; but constantly only playing the naked chord, as if it were a thoroughbass.[30]

Here are the impressions produced on Marpurg by a certain organist who attempted to play fugue *ex tempore*:

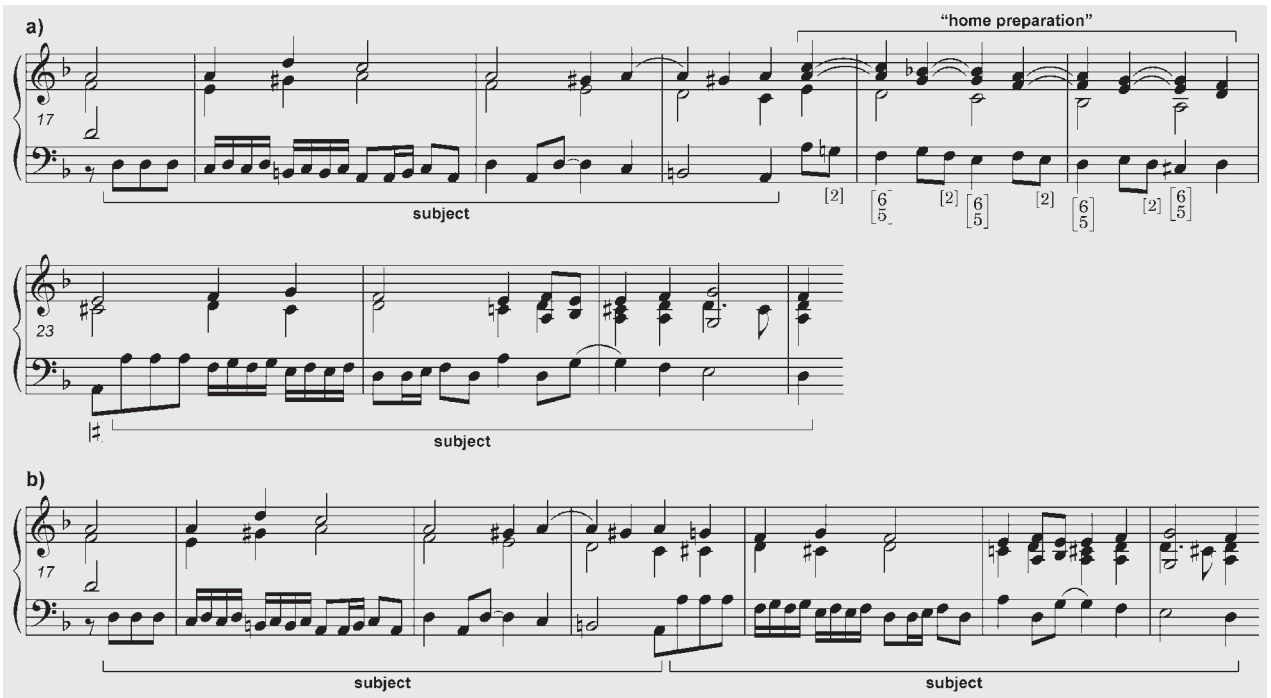
> Someone often has the good intention to make it better. But what does he do? He slams out the figured bass, and this is terrible to hear. There are no suspensions which make the harmony pleasant, fluent and coherent. It is a jolting harmony. One hears no stretto, no motivic development of the theme. There is no order, and the number of voices one can only surmise at the end, when as, per forma, it ought to be clear directly after the first exposition of the theme through different voices of the fugue. The theme is will never be wisely advised in the middle voices. You only ever hear it above or below—as one hand accompanies another as in an aria. One never hears the theme as comfortable, nor at the appropriate time, expressively and sensitively for the mind and the ear in a sustained and affecting way. It is but a senseless din and tumult—not to mention the discord within the harmony.[31]



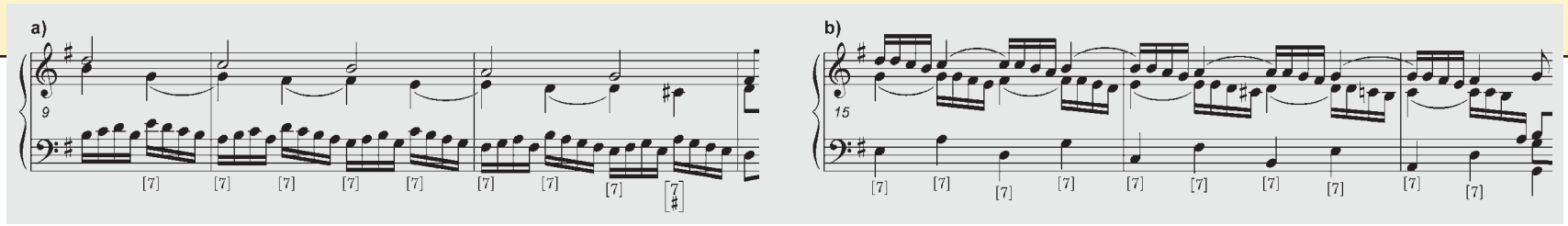
Example 4. J. C. Simon, *Leichte Præludia und Fugen, Prelude and Fugue in B-flat Major* : Fugue, a) bars 1–4, b) bars 23–37



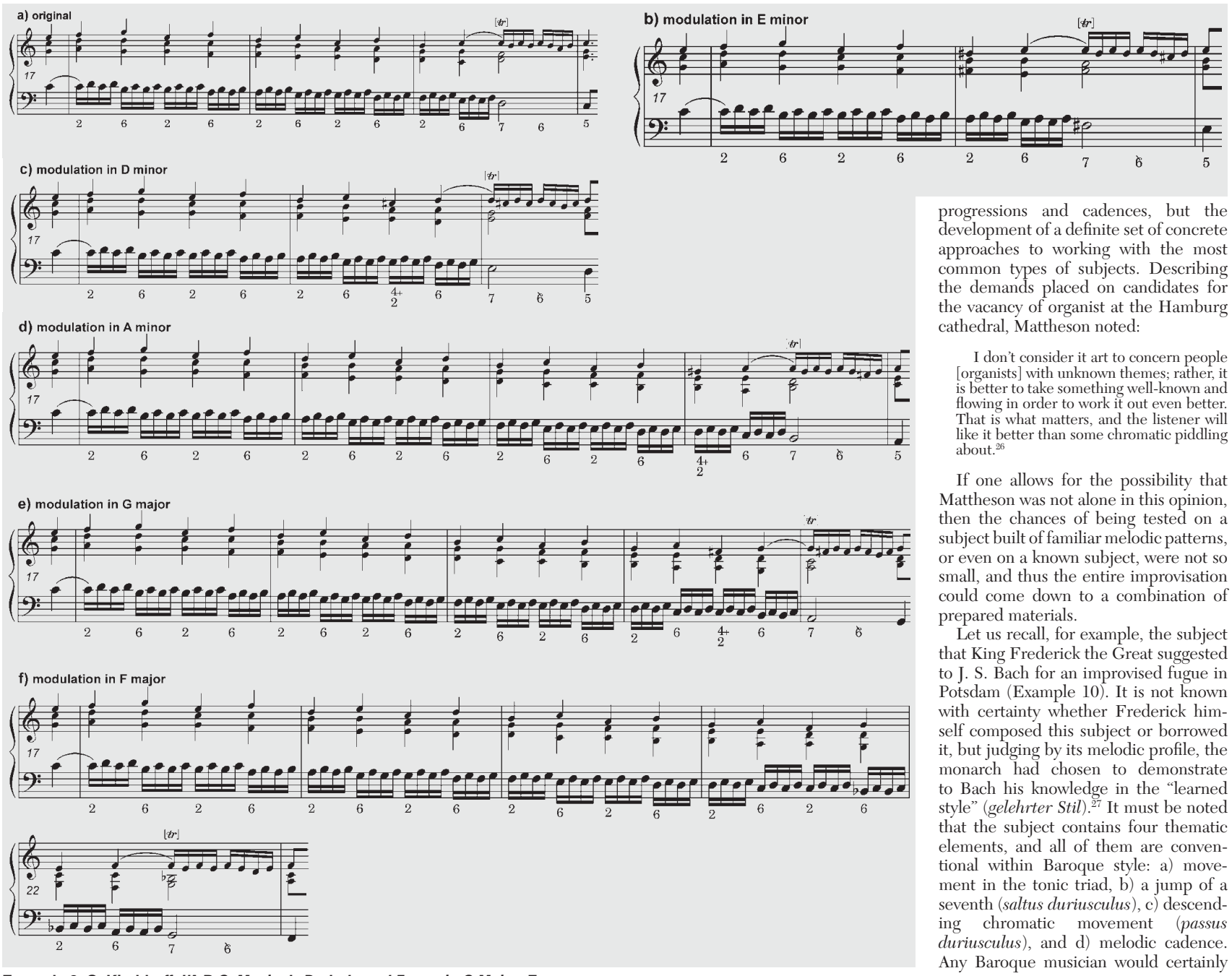
Example 5. *Langlo(t)z Manuscript, Fugue No. 21 in F Major*, bars 11–14



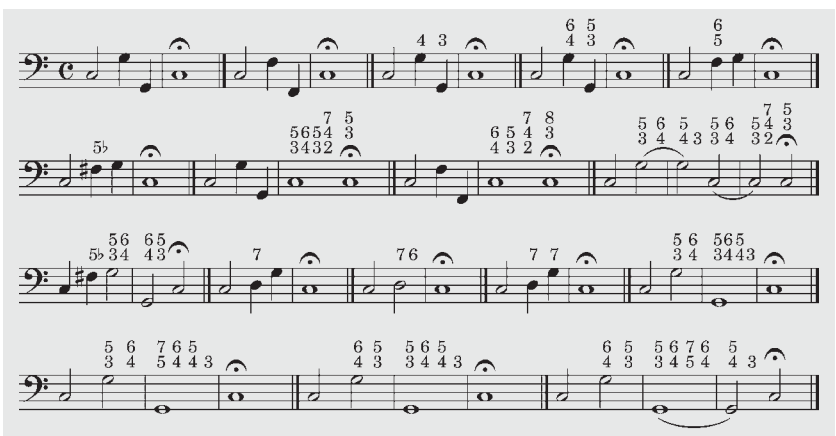
Example 6. *Mylau Tabulaturbuch,* No. 35, *Fantasia in D Minor*



Example 7. *Mylau Tabulaturbuch,* No. 123, *Prelude in G Major*



Example 8. G. Kirchhoff, *L'A.B.C. Musical, Prelude and Fugue in C Major*: Fugue.



Example 9. J. S. Bach, *Precepts and Principals,* the most-used final cadences

The picture described by Mattheson and Marpurg was characteristic of improvisations by mediocre organists. The more talented and gifted performers avoided precise repetition of strophes and brought to each new strophe a certain degree of newness, to which extant samples of thoroughbass fugue eloquently testify. In addition to the aforementioned tonal reinvention of strophes, one can quite often find such methods of refashioning as introducing a new counterpoint to the subject, "register leap" (i.e., a skipping of two or more register pitches where the subject can enter), and the use of stretto in the final strophe.

Although the opinion does exist that "the part of the fugue related to statements of the subject was created during improvisation,"[25] there is reason to suggest that even during these sections the performer could sometimes refer to prepared material. Judging from extant samples of thoroughbass fugue, the study of fugal improvisation included not just the regular practice of sequential progressions and cadences, but the development of a definite set of concrete approaches to working with the most common types of subjects. Describing the demands placed on candidates for the vacancy of organist at the Hamburg cathedral, Mattheson noted:

> I don't consider it art to concern people [organists] with unknown themes; rather, it is better to take something well-known and flowing in order to work it out even better. That is what matters, and the listener will like it better than some chromatic piddling about.[26]

If one allows for the possibility that Mattheson was not alone in this opinion, then the chances of being tested on a subject built of familiar melodic patterns, or even on a known subject, were not so small, and thus the entire improvisation could come down to a combination of prepared materials.

Let us recall, for example, the subject that King Frederick the Great suggested to J. S. Bach for an improvised fugue in Potsdam (Example 10). It is not known with certainty whether Frederick himself composed this subject or borrowed it, but judging by its melodic profile, the monarch had chosen to demonstrate to Bach his knowledge in the "learned style" (*gelehrter Stil*).[27] It must be noted that the subject contains four thematic elements, and all of them are conventional within Baroque style: a) movement in the tonic triad, b) a jump of a seventh (*saltus duriusculus*), c) descending chromatic movement (*passus duriusculus*), and d) melodic cadence. Any Baroque musician would certainly

know these melodic patterns, along with the methods of their elaboration within a fugue. The elements listed here are well represented both in didactic and artistic samples of thoroughbass fugues, and what is especially important is that their musical realization (counterpoint, harmonization) often coincides.

Depending on the conditions of improvisation, "home preparations" could have various degrees of concretization. In those cases where a fugue was improvised on the occasion of a public challenge or competitive auditions, the performer had to hold his prepared materials in his memory. In everyday practice, however, it was acceptable to use the preparations written out on paper. We find examples of such preparations in a Daniel Magnus Gronau manuscript, which is held today in the Library of Polish Academy of the Sciences (Gdansk) as *MS. Akc. 4125*.[28] This manuscript contains 517 (!) sets of preparatory sketches for fugue improvisation in all twenty-four keys. Each set holds three thematic records, written one below the next on individual staves (Example 11). On the upper staff in soprano clef, the subject with figures is written out, and the beginning of the answer with countersubject is outlined in small notes.[29] On the second staff in bass clef, the counterpoint to the subject with figures is recorded. On the third staff, also in bass clef, the answer with figures is fixed. In this way, every set encompasses all necessary material for planning any statement of the subject, whether alone or with multiple voices, whether in the tonic or in the dominant.

Thanks to such preparations, the process of fugue improvisation is considerably simplified, since the need to search for a harmonization of the subject, a counterpoint to it, and a suitable answer is taken care of. Essentially, the performer must only care for the episode material, and the fugue, necessary for the church service, is ready.

In summary, the improvisation of fugue during the Baroque epoch was not necessarily the spontaneous nor extemporaneous fruit of inspired fancy. Much more often it was soundly prepared and planned on all levels: from the syntactic to the compositional. Even before the start of improvisation, the performer could clearly imagine the compositional structure that he must fill out using his musical material, the bulk of which could be prepared during "home" practice. One of the most widespread compositional models was strophic form, where the structure of each strophe had identical organization and included three syntactic units: the group of statements, the sequential unfolding, and the cadence. As a result, the entire improvisation could be boiled down to finding the right harmonization for the given subject and thinking up a tonal structure for the strophes; all the rest—textural formulae, cadences, sequences—the performer took from his memory practically in ready form.

Postscript

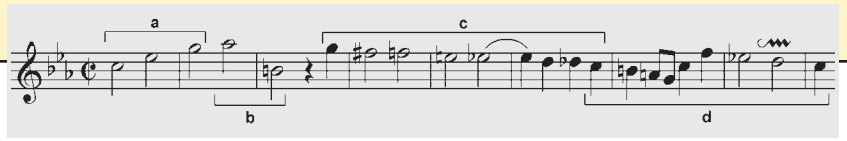
It stands to reason that the strophic form described in this article was not the only compositional model used for fugal improvisation during the Baroque. The discovery of this model, though, in other improvisatory genres of the Baroque era gives reason to consider it as universal within the improvisation practice of that time.

There is reliable evidence that the strophic form was purposefully worked out in the process of musical training. For example, *Precepts and Principles* contains a set of fourteen keyboard exercises for mastering the harmonic formulae most common to thoroughbass. Surprisingly, all these exercises are precisely identical in form—all are strophic (Example 12).

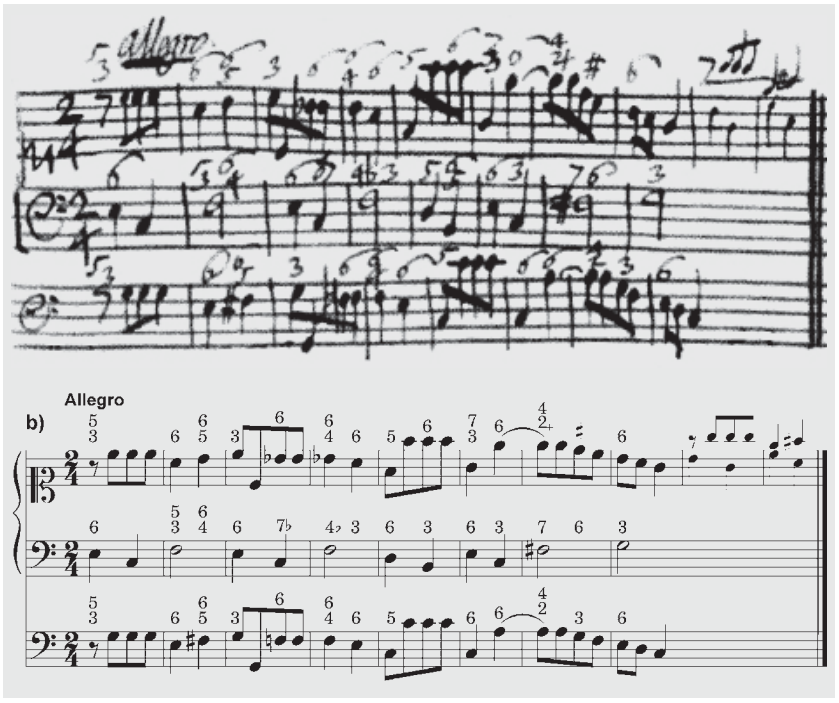
The outer strophes are in the tonic, while the central ones are in the closely related keys (in dominant and parallel). It is not difficult to imagine how many distinct figuration preludes could be created on the basis of only one model, varying merely harmonic content and textural formulae.[32] If one involves methods of structural transformation (extension or compression of strophe), then the number of variants is multiplied.

Examples of such preludes can be found among the sources discussed in this article. Thus, in analyzing some pieces from the *Langlo(t)z Manuscript* or Kirchhoff's *L'A.B.C. Musical*, one gets the impression that the authors had the structure of Bach's exercises specifically in mind while they composed, so strong are the similarities. The C-minor Prelude from the *Langlo(t)z Manuscript*, for example, differs from Bach's exercises due only to one additional strophe and short melodic links between the strophes (Example 13). The F-major Prelude from Kirchhoff's *L'A.B.C. Musical* also contains an additional strophe, but the development within the third and fourth strophes is dynamicized thanks to structural transformations: the sequential development is truncated in the third, and the "head" motive is withdrawn in the fourth (Example 14).

The list of works of an improvisatory character that have strophic form with variations of its solutions can be further extended, but this would be a topic for a separate article. ■



Example 10. J. S. Bach, *Musical Offering*, BWV 1079: *Ricercar a 3*, bars 1–9



Example 11. D. M. Gronau, *MS Akc. 4125,* No. 1: *Allegro,* a) original, b) modern transcription

The list of German sources, containing samples of thoroughbass fugue

"39. PRAELUDIA et FUGEN del Signor Johann Sebastian Bach" (Staatsbibliothek zu Berlin—Preussischer Kulturbesitz, Musikabteilung; shelf mark: Mus. ms. Bach P 296). Published in *The Langloz Manuscript: Fugal Improvisation through Figured Bass,* With Introductionary Essay and Performance Notes by William Renwick. (New York: 2001), pp. 35–187.

"Des König[lichen] Hoff-Compositeurs und Capellmeisters ingleichen Directoris Musices wie auch Cantoris der Thomas-Schule Herrn Johann Sebastian Bach zu Leipzig Vorschriften und Grundsätze zum vierstimmigen spielen des General-Bass oder Accompagnement. für seine Scholaren in der Music. 1738" (Brussels: Bibliothèque du Conservatoire royal; shelf mark: mr. FRW 27.244). Published in *J. S. Bach's Precepts and Principles for Playing the Thorough-Bass or Accompanying in Four Parts, Leipzig, 1738,* translation with facsimile, introduction, and explanatory notes by Pamela L. Poulin. (Oxford, 1994), pp. 41–45.

Händel, Georg Friedrich. *Aufzeichnungen zur Kompositionslehre: aus den Handschriften im Fitzwilliam Museum Cambridge (Composition Lessons: from the Autograph Collection in the Fitzwilliam Museum Cambridge),* Hrsg. von Alfred Mann. Leipzig: Veb Deutscher Verlag für Musik, 1978. S. 53–70 (Hallische Händel-Ausgabe: Kritische Gesamtausgabe. Suppl. Bd. 1). Republished in *Continuo Playing According to Handel: His Figured Bass Exercises,* With a Commentary by David Ledbetter (Oxford: Clarendon Press, 1990), pp. 44–61.

Heinichen, Johann David. *Der General-Bass in der Composition*. Dresden, 1728, S. 516–520.

Kellner, Johann Christoph. *Grundriss des Generalbasses. Op. XVI. Erster Theil.* Cassel, [1783], S. 41–45.

Kirchhoff, Gottfried. *L'A.B.C. Musical* (Amsterdam [c. 1734]), 34 S. Republished as Kirchhoff, Gottfried, *L'A.B.C. Musical,* Hrsg., kommentiert und Generalbaß realiziert von Anatoly Milka (St. Petersburg: Musikverlag "Compozitor," 2004), XXVIII, 104 S.

Niedt, Friedrich Erhardt. *Musicalische Handleitung. Erster Theil. Handelt vom General-Bass, denselben schlecht weg zu spielen* (Hamburg, 1700), Cap. X. Republished as Niedt, Friedrich Erhardt, *The Musical Guide, Parts 1 (1700/10), 2 (1721), and 3 (1717),* translated by Pamela L. Poulin and Irmgard C. Taylor; introduction and explanatory notes by Pamela L. Poulin (Oxford: Clarendon Press, 1989), pp. 48–49.

"Pral: Kirchhoff" (Staatsbibliothek zu Berlin—Preussischer Kulturbesitz, Musikabteilung, Mus. ms. 11605), published in Kirchhoff, Gottfried, *Prelude and fugue for organ from the manuscript Mus. ms. 11605: first edition,* edited and with a preface and commentaries by Maxim Serebrennikov (St. Petersburg: Polytechnical University Publishing House, 2009), 16 p.

Simon, Johann Caspar. *Leichte Praeludia und Fugen durch die Tone: C. D. E. F. G. A. B. dur* (Augsburg [1746]), 14 S.

Simon, Johann Caspar. *Leichte und wohlklingende Praeludia und Fugen durch die Tone: C. D. E. F. G. A. H. moll* (Augsburg [1747]), 14 S.

Simon, Johann Caspar. *Musicalisches A. B. C. in kleinen und leichten Fugetten* (Augsburg, 1749), 24 S.

"TABULATUR Buch 1750" (Mylau, Archiv der Evangelisch-lutherischen Kirchgemeinde; shelf mark: MS H 3a). Transcribed in Shannon, John R., *The Mylauer Tabulaturbuch: a Study of the Preludial and Fugal Forms in the Hands of Bach's Middle-German Precursors*. Ph.D., Music, University of North Carolina at Chapel Hill, 1961. Vol. 2, iii, 184 p.

Notes

1. I wish to express my deep gratitude to Prof. David Ledbetter (Royal Northern College of Music), who read the final draft of this article and kindly provided me with helpful comments and constructive suggestions.

2. The topic has been actively discussed especially in the last two decades in connection with awakened interest in the Italian improvisational practice of *partimento*, which spread throughout Europe in the 18th century. Currently the study of *partimento* is gaining incredible momentum. The most comprehensive study of this field at the moment is Giorgio Sanguinetti's book *The Art of Partimento: History, Theory, and Practice* (New York: Oxford University Press, 2012).

3. Although Renwick's book contains a special subheading, *Fugal Improvisation through Figured Bass*, he does not treat the actual process of improvisation. His work is not a theoretical study about fugal improvisation, but an anthology of authentic musical samples for practical mastery of this skill. In fairness, the article "On the fugue improvisation" by the Russian musicologist Sergey Maltsev also should be mentioned: Sergey Maltsev, "Ob improvizacii i improvizacionnosti fugi," in *Teoriya fugi: sbornik nauchnish trudov, otv. red. A.P. Milka* (Leningrad: Izd-vo LOLGR, 1986), pp. 59–60. Unfortunately, this work containing many valuable observations about the process of fugal improvisation, because of a language barrier, did not gain wide circulation.

4. Maltsev, "Ob improvizacii i improvizacionnosti fugi," pp. 59–60.

5. David Yearsley, "Spontaneous fugue," in *Early Music*, 2001, Vol. XXIX (3), p. 452.

6. See Marina Nasonova, "Prakticheskaya deyatelnost severonemetskogo organista XVII veka," in *Starinnaya muzyka: praktika, aranzhirovka, rekonstrukciya: Materialy nauchno-prakticheskoy konferencii* (Moscow: Prest. 1999), pp. 117–128.

7. Johann Mattheson, *Grundlage einer Ehren-Pforte* (Hamburg, 1740), S. XXXIII, § 48. Based on the study of ecclesiastical protocols, Reinhard Schäfertöns concluded that the free prelude and the organ chorale prelude and fugue were central points of organ playing at the time of worship (Reinhard Schäfertöns, "Die Organistenprobe— Ein Beitrag zur Geschichte der Orgelmusik im 17. und 18. Jahrhundert," in *Die Musikforschung,* 1996, 49, Jg. Hf. 2, S. 143).

8. "Denn viel *Musici* sind heimlich und rahr mit ihren Wissenschaften," Andreas Werckmeister, *Harmonologia musica* (Franckfurth und Leipzig, 1702), S. 95.

9. In Part I of his *Musicalische Handleitung* (1700), F. E. Niedt promises to give a "proper instruction on how Fugues are to be improvised" in the next parts (Cap. X). Unfortunately, his death prevented him from fulfilling his intention.

10. David Ledbetter, *Bach's Well-tempered Clavier: The 48 Preludes and Fugues* (New Haven and London: Yale University Press, 2002), p. 99.

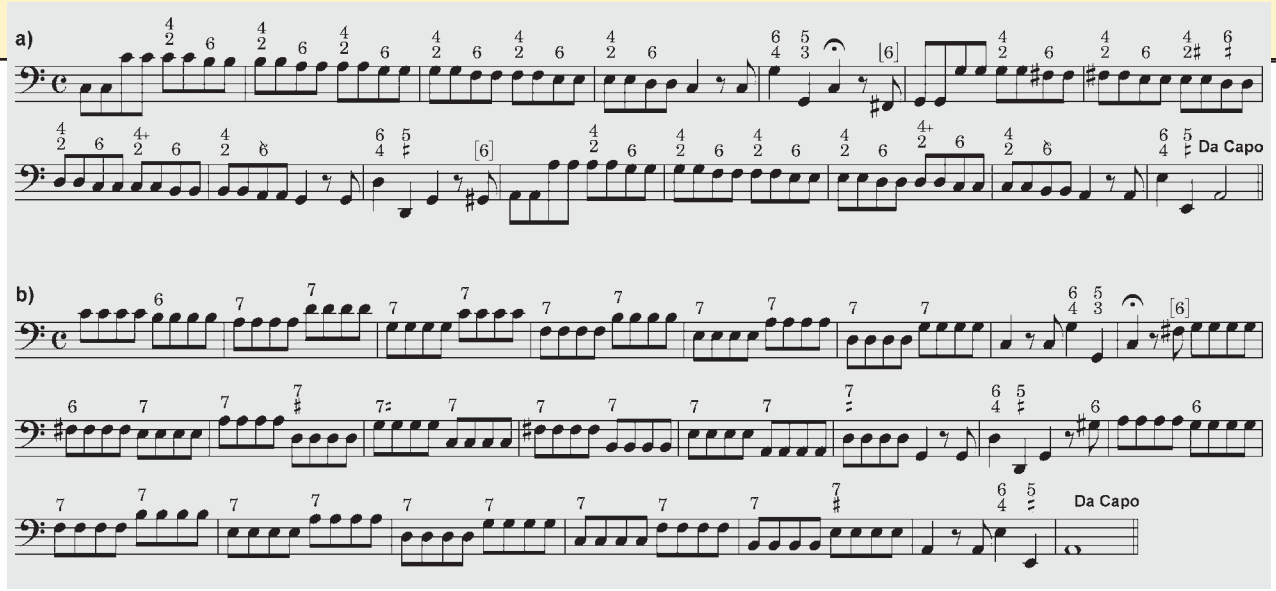
11. For more details about the difference between the terms *partimento fugue* and *thoroughbass fugue*, see Maxim Serebrennikov, "From Partimento Fugue to Thoroughbass Fugue: New Perspectives," in *BACH: Journal of the Riemenschneider Bach Institute*, vol. XL, no. 2 (2009), pp. 22–44.

12. It is also important to realize that there is a notable difference between the resources demanded for perception of information as opposed to its creation (which is precisely what improvisation requires). The latter takes much more energy, and therefore, resources for attention are more quickly expended.

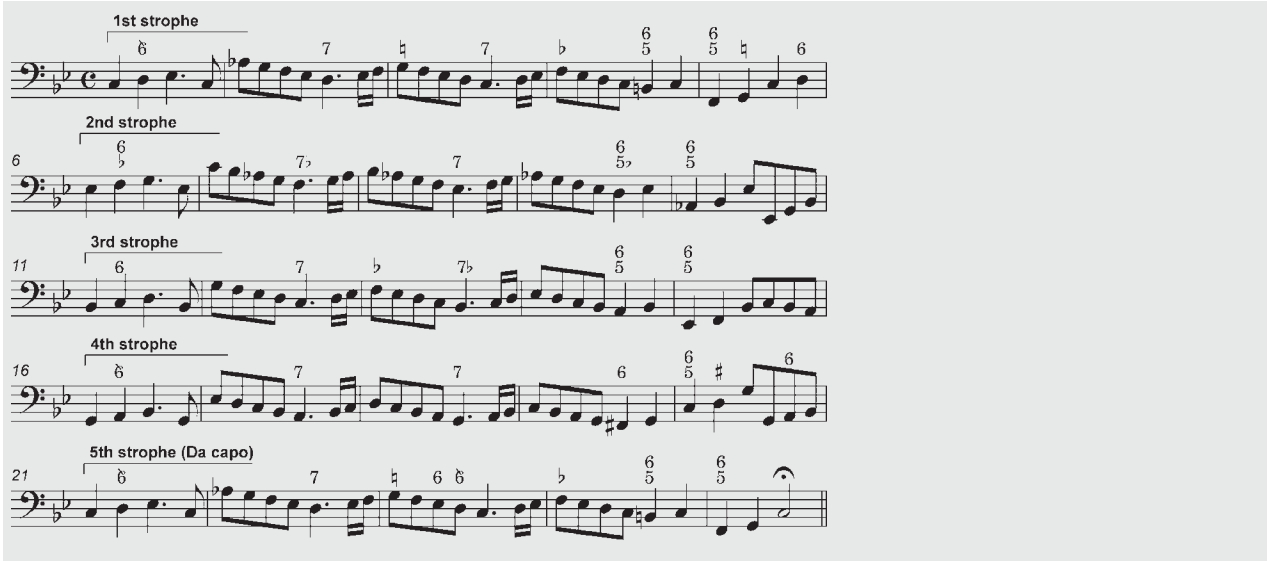
13. One musician alive today who possesses a phenomenal gift for improvising in any style and genre is Richard Grayson. Some of his improvisations (including fugue) on a subject proposed by an audience can be viewed on YouTube.

14. From an interview with Olin Downes, in *New York Times,* February 2, 1930, Arts & Leisure, p. 112.

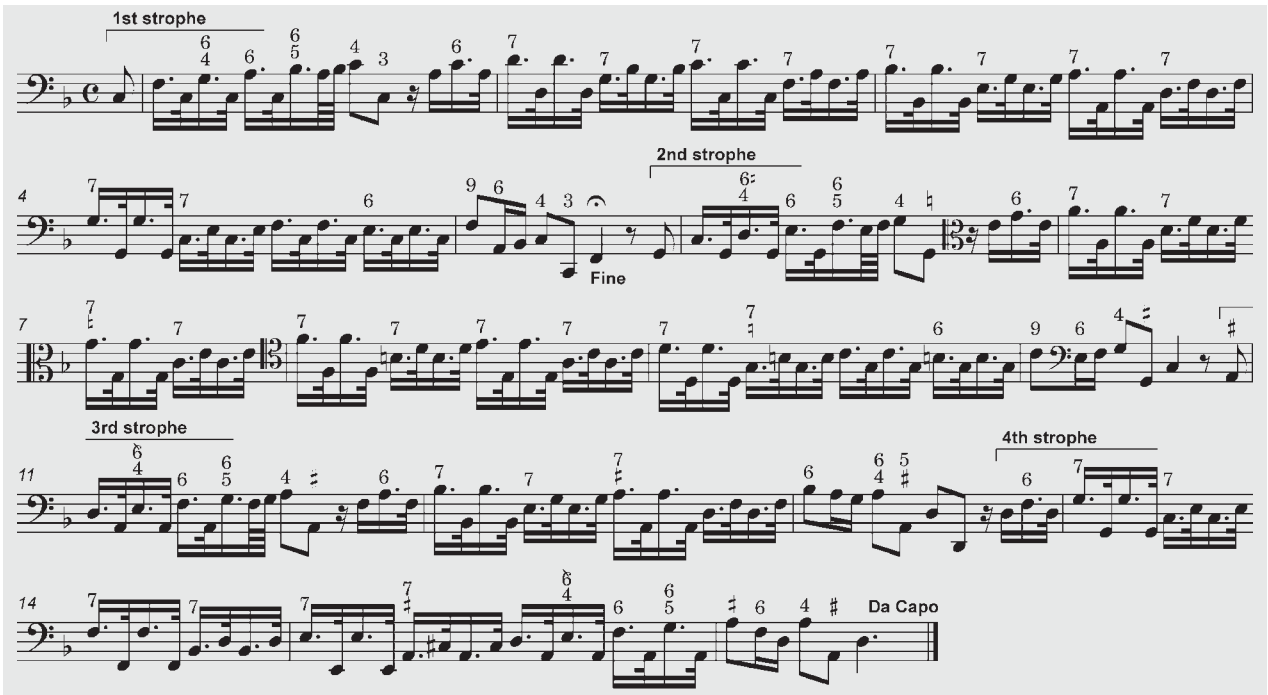
15. Mikhail Saponov, *Iskusstvo improvizatsii: Improvizatsionnye vidy tvorchestva v zapadnoevropejskoj muzyke srednikh vekov i Vozrozhdeniya* (Moscow, 1982), p. 57 [in Russian]. Similar statements can be found also in Maltsev, "Ob improvizacii i improvizacionnosti fugi," p. 6; David Schulenberg, "Composition and Improvisation in the School of J. S. Bach," in *Bach Perspectives I,* 1995, p. 5; William Renwick, *Analyzing Fugue: A Schenkerian Approach* (Stuyvesant, NY: Pendragon Press, 1995), p. 17; Pamela Ruiter-Feenstra, "J. S. Bach and Improvisation Pedagogy: Extemporaneous Composition," in *Keyboard Perspectives II* (2009), ed. by Annette Richards, p. 43; Michael Richard Callahan, *Techniques of Keyboard Improvisation in the German Baroque and their Implications for Today's Pedagogy* (Ph.D. dissertation, University of Rochester, Eastman School of Music, 2010), p. 10.



Example 12. J. S. Bach, *Precepts and Principles*: a) Exercise 7, b) Exercise 13



Example 13. *Langlo(t)z Manuscript, Prelude and Fugue No. 45 in C Minor*: Prelude



Example 14. G. Kirchhoff, *L'A.B.C. Musical, Prelude and Fugue in F Major*: Prelude

16. "The improviser, let us hypothesize, always has something given to work from—certain things that are at the base of the performance, that he uses as the ground on which he builds. We may call it his model." Bruno Nettl, "Thoughts on Improvisation: A Comparative Approach," in *The Musical Quarterly*, 1974, Vol. LX, No. 1, p. 11.

17. A list of German sources, containing samples of thoroughbass fugue, appears at the end of the article.

18. The strophic form of the thoroughbass fugue has roots in the verset fugues tradition and to the sectional structure of motets and ricercar. What we say about strophes of thoroughbass fugue is closely related to Joel Lester's "parallel sections" and David Ledbetter's "series of expositions." See Joel Lester, "Heightening levels of activity in J. S. Bach's parallel-section constructions," in *Journal of the American Musicological Society*, Vol. 54, No. 1 (Spring 2001), p. 49–96; and Ledbetter, *Bach's Well-tempered Clavier*, p. 100.

19. The term "Gegenharmonie" first appeared in *Abhandlung von der Fuge* by Friedrich Wilhelm Marpurg, where it is given the following definition: "Counterharmony. Thus is named the material in the remaining parts which is set against the subject." ("Die Gegenharmonie. So heißt diejenige Komposition, die dem Fugensatze in den übrigen Stimmen entgegengesetzt wird.") Friedrich Wilhelm Marpurg, *Abhandlung von der Fuge* (Berlin, 1753), S. 18.

20. Since all standard harmonic structures in thoroughbass are noted in shorthand, we have added to the original figuring (where necessary) those signatures within brackets, which were implied by default.

21. By way of numerous experiments, it has been shown that the capacity of short-term (active) memory, without which the process of improvisation is simply impossible, is limited to 7 ± 2 units of information (the so-called Miller's number). This can be increased only by uniting disparate elements into groups. We refer to a very illustrative example from Maltsev's article in order to demonstrate the activity of this mechanism: "For example, short-term memory can retain around seven different letters (perhaps, X, J, D, B, G, U, S), but the number of letters drastically increases if we try to remember seven words, and will increase even more drastically if we try to remember seven sentences." (Maltsev, "Ob improvizacii," p. 69.) As Michael Callahan emphasizes: "Experts recognize relevant patterns, and therefore perceive stimuli in larger and more meaningful units than novices do; expert improvisers notice patterns in music and conceive of musical units in large spans (e.g., entire voice-leading structures and phrases, rather than individual notes)." (Callahan, *Techniques of Keyboard Improvisation*, p. 22.)

22. We remind the reader that the harmonic vertical in thoroughbass is constructed upwards from a given note, therefore the part entering with the subject must always be the lowest one.

23. "Alle in bissherigen Numern muessen nicht nur vom Papier, sondern auch auswendig auf das fertigste und deutlichste gelernt werden," in Philipp Christoph Hartung, *Musicus Theoretico-Practicus*, Zweyter Theil (Nuremberg, 1749), S. 12, § 42).

24. Sometimes the tasks that were given to organists for the purpose of testing were limited by a time-frame. For example, the testing of organists for the post at the Hamburg Cathedral (24 October 1725) included the presentation of an entire fugue "created for four minutes," a prelude of "about two minutes," a chaconne of "about six minutes," etc. See Johann Mattheson, *Grosse General-Baß-Schule* (Hamburg, 1731), S. 33. It is very difficult to improvise a piece with continuous development and at the same time fit everything within a given time-frame. It is much easier to fill the established time limits with standard-size strophes, adding a necessary number.

25. Anatoliy Milka, *Muzikalnoye prinosheniye I. S. Basha: k rekonstrukzii I interpretazii* (Moscow, 1999), p. 151 [in Russian].

26. "Denn mit fremden Sätzen die Leute zu scheeren, halte ich für keine Kunst; lieber was bekanntes und fliessendes genommen, damit es desto besser bearbeitet werden möge. Darauf kommt es an, und es gefällt dem Zuhörer besser, als ein chromatisches Gezerre" in Mattheson, *Grosse General-Baß-Schule*, S. 34–35.

27. For more details on the authorship of *Thema Regium* see Milka, *Muzikalnoye prinosheniye I. S. Basha*, pp. 153–167.

28. For more details about the manuscript *MS. Akc. 4125* see Andrzej Szadejko, "Daniel Magnus Gronau (1700–1747)—didaktische Aspekte in Orgelwerken am Beispiel der Signatur MS. Akc. 4125 aus der Danziger Bibliothek der Polnischen Akademie der Wissenschaften," in *Musica Baltica* (Gdansk, 2010), S. 351–361. It is interesting that Szadejko views the given source solely from a didactic perspective: as exercises in counterpoint. In my opinion, considering its intended purpose, *MS. Akc. 4125* has more in common with such collections as the *Langlo(t)z Manuscript* and the *Mylau Tabulaturbuch*; it is also an anthology containing musical material necessary for the church organist's everyday activity.

29. Indeed, the written-out figures concern themselves not with the single-part statement at the beginning of a fugue, but to the latter (multi-part) statements.

30. "Vielweniger darff man sich an den Gebrauch einiger Organisten binden, die das Thema erst, ohne die geringste Verblümung, fein ehrbar und viermahl durchs gantze Clavier in lauter Consonantzien und Lämmer-Tertzien hören lassen; hernach wieder mit dem Gefährten eben so bescheidentlich von oben anfangen; immer einerley Leier treiben; nichts nachahmendes oder rückendes dazwischen bringen; sondern nur stets den blossen Accord, als ob es ein General-Baß wäre, dazu greiffen" in Johann Mattheson, *Der Vollkommene Capellmeister* (Hamburg, 1739), S. 388, § 97.

31. "Ein anderer hat öfters den guten Willen, es besser zu machen. Aber was thun er? Er dreschet den Generalbaß, und dieses ist sehr erbaulich anzuhören. Da sind keine Bindungen, die die Harmonie angenehm, fliessend und zusammenhängend machen. Es ist eine holperichte Harmonie. Da höret man keine enge Nachahmung, keine Zergliederung des Satzes. Da ist keine Ordnung, und die Anzahl der Stimmen erfähret man zur Noth am Ende, da man solche gleich nach der ersten Durchführung des Satzes durch die verschiedenen Stimmen hätte empfinden sollen. Dieser Satz wird niemahls in den Mittelstimmen klüglich angebracht. Man höret ihn nur immer oben oder unten wozu beständig die eine Hand die andere, so wie eine Arie, accompagnirt. Man hört das Thema niemahls bequem und zur rechten Zeit auf eine den Verstand und das Ohr nachdrücklich rührende Art eintreten. Es ist ein hanbüchenes Gelärme und Gepolter; der unharmonischen Gänge nicht zu gedenken" in Marpurg, *Abhandlung von der Fuge*, Theil II (Berlin, 1754), S. XXIII–XXIV).

32. About the use of *ars combinatoria* techniques in the 18th-century, see Leonard G. Ratner, "Ars Combinatoria: Chance and Choice in Eighteenth-Century music," in *Studies in Eighteenth-Century Music: A Tribute to Karl Geiringer on his Seventieth Birthday*, ed. by H. C. Robbins Landon and Roger E. Chapman (New York: Da Capo Press), pp. 343–363.

Maxim Serebrennikov is a lecturer in music theory at the Rimsky-Korsakov College of Music (St. Petersburg) and a head of the Rare Book Department at the St. Petersburg Conservatory of Music Library. His research interests concern keyboard and organ music of 17th and 18th centuries. He is currently preparing a Ph.D. thesis on the keyboard thoroughbass fugue of the Baroque era.