



Hermeneutics before Bach

Research and research results by Christoph Bossert

Feature 8

Mean tone and the break with this system based on the composers Frescobaldi,
Fischer and Bach

Hermeneutics
instructional video in 12
features
with

Prof. Dr h. c. Christoph Bossert
on the Klais organ (2016) in the Great Hall of the
Würzburg University of Music

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Sheet music used

Johann Sebastian BACH, *Orgelbüchlein*. In: *Johann Sebastian Bach. Neue Ausgabe sämtlicher Werke (NBA) IV/1* ed. by Heinz H. Löhlein , Bärenreiter [BA 5056-01], Kassel et al. 1983,² 2012.

Johann Sebastian BACH, *keyboard and lute works: The Well-Tempered Clavier I*. In: *Johann Sebastian Bach. New Edition of the Complete Works (NBA) V/76, 1* ed. by Alfred Dürr, Bärenreiter [BA 5070-01], Kassel et al. 1989.

Johann Sebastian BACH, *keyboard and lute works: The Well-Tempered Clavier II* in: *Johann Sebastian Bach. New Edition of the Complete Works (NBA) V/76, 2* ed. by Alfred Dürr, Bärenreiter [BA 5086-01], Kassel et al. 1995.

Johann Caspar Ferdinand FISCHER, *Ariadne Musica*, edited by Gayk Aboyan via Creative Commons Attribution Non-commercial Share Alike 3.0 [tag/del/mrg], part of the Werner Icking Music Collection.

URL: < https://s9.imslp.org/files/imglnks/usimg/2/22/IMSLP284770-PMLP45354-Fischer,_J.C._Preludes_and_Fugues_-_Ariadne_Musica_organaedum-.pdf > Retrieved: 22/07/2023.

Feature 8

Excursus on mean tone and the break with this system using the composers Frescobaldi, Fischer and Bach as examples

In the transition from the 17th to the 18th century, an epochal cut actually takes place. Generally speaking we don't usually think of the years from 1600 to around Bach's death in 1750 as the Baroque period. So what kind of transition occurred in the last decades of the 17th century? At first, the so-called "Mitteltönigkeit" prevails and at the end of the 17th century a discussion about the limits that the Mitteltönigkeit sets for composing and improvising on the organ becomes increasingly clear. It is therefore important to ask: what is meant by mean tone?

The mean tone is based on the primacy of the pure third. The pure third is always produced on the organ if you have a third stop and hear this note [KB], for example, and can draw another stop, the third stop to the two-foot [in sound examples]:

- a pure third.
- Played chromatically, pure thirds appear on every next fundamental.
- If we compare what we have just heard with this third [KB], there is a small difference, but it is comparatively small.

This means that on this organ with its unequal temperament - which is not mean-tone - the third *c-e* very tempered towards purity [KB].

- In contrast, a third on *c sharp* [KB]. Here, in comparison [KB]: This is not a nice third, but actually tends to be a diminished fourth [KB]; and quite deliberately an *e sharp* [KB] should not be added to the *c sharp*, but an *f* [KB], in contrast to the pure third [KB], understood as *c sharp-e sharp*.

If I now go through the sequence of fundamental tones, I realise the following [in sound examples]:

- We have eight notes on which a perfect third or a good third can be formed, on *c*, then on *d*, on *e flat*, on *e*, on *f*; but not on *f sharp*;
- then *g-b*, but not on *g-sharp* - because there the reference is a *c-e-flat-d-b-c*;
- then *a-cis* and:
- *b* again has a good third above it; *b*, however, has the note *e flat* above it.

In the meantone system, which was common on all organs in Frescobaldi's time, eight good or pure thirds apply as opposed to four, which are not a third but a diminished fourth. Namely above the notes *c sharp*, *f sharp*, *g sharp* and *b*. So much for the question of mean tones, summarised as briefly as possible.

Now the further content of this feature is, on the one hand, a break with the mean tone and, on the other, a link from Frescobaldi via Johann Caspar Ferdinand Fischer to Johann Sebastian Bach. If you take Fischer's Fuga in C sharp minor from his *Ariadne Musica*¹ - published in 1702 - it is easy to see that, firstly, an organist could never have played in C sharp minor in Frescobaldi's time. Fischer therefore reckons that organs are now tuned or tempered differently. I would like to play his Fuga in C sharp minor briefly:

¹ Johann Caspar Ferdinand Fischer, *Ariadne Musica Neo-Organoedum Per Viginti Prælua, totidem Fugas atque Quinque Ricerca- ras Super totidem Sacrorum anni Temporum Ecclesiasticas Cantilenas e difficultatum labyrintho educens*, Schlackenwerth 1702; the dedicatee is the abbot of Tepl [Tepla] monastery in Bohemia.



Fig. 1: Johann Caspar Ferdinand Fischer, *Ariadne Musica*, Fuga in C sharp minor.

Secondly, it is unmistakable that this is directly related to the beginning of Frescobaldi's enigmatic Ricercar, as shown in features 6 and 7:



Fig. 2: Girolamo Frescobaldi, *Messa della Madonna* (1635), *Recercar Con Obligio di Cantare la Quinta parte senza Tocarla*.

All you have to do is swap Dux and Comes and the two pieces become analogous, but strictly differentiated by the key of A - A minor, if you like - in Frescobaldi and C sharp minor in Fischer.

What is the connection to Bach?

There is an elementary connection between Fischer and Bach, in that the concept of *Ariadne musica* - namely to compose all twelve fundamental tones by means of preludes and fugues - provides the model for Bach's Wohltemperirtes *Clavier*, both Volume I and then Volume II. In this respect, this is not news, but part of music history. This affinity between Fischer and Bach is also emphasised by the fugues in E major by Fischer and Bach respectively. In Fischer's case it reads as follows:



Fig. 3: Johann Caspar Ferdinand Fischer, *Ariadne Musica*, Fuga II, E major.

And now, for comparison, Bach's Fuga in E major from the Well-Tempered *Clavier* II:



Fig. 4: Johann Sebastian Bach, *Das Wohltemperirte Clavier* II, Fuga in E major BWV 878.

On the one hand, we have established the connection between Frescobaldi and Fischer on the basis of the 'Riddle-Ricercar'; on the other hand, the connection between Fischer and Bach is now elementary. Furthermore, it has already been said that Frescobaldi's *Tocata*, which precedes the 'Riddle-Ricercar', correlates directly with Bach's *Nun komm der Heyden Heylandt* as the beginning of the *Orgelbüchlein*. It is therefore certain that there is a connection from Frescobaldi via Fischer to Johann Sebastian Bach². There is an additional argument. Bach's fugue in E major from the Well-Tempered *Clavier* II is notated in 4/2 time. No other piece in the *Well-Tempered Clavier* has such an *antico-style* time signature. This corresponds exactly to Frescobaldi's or Fischer's style of composition. On the other hand, what does the ear perceive in Bach? The ear perceives a three-part metre, namely:



Fig. 5: Johann Sebastian Bach, *Das Wohltemperirte Clavier* II, Fuga in E major BWV 878.

After every three whole notes, the next voice begins again. The eye perceives four halves. The ear, however, perceives three wholes. So the *perfectissima*, which is available to the notation, is not expressed directly, but in the four half-[bars], but the ear actually perceives this *perfectio* of three-temporality acoustically and directly. Thus we again have a play between the levels:

- a) A game between four and three; this game was established with Steigleder; it is also the hallmark of Frescobaldi's 'riddle ricercar' and it is also the hallmark of the *Lord's Prayer*: three petitions and four requests.
- b) It is a game between the level of the visible and the audible, i.e. the eye and the ear, comparable to the *Visibilium et Invisibilium*.
- c) The 3/1 metre in Bach's Fuga in E major is, as it were, the utopia that was mentioned in view of the *tocata* and the 'enigmatic ricercar' in Frescobaldi's *Messa della Madonna* in Feature 7.

So much for this elementary line between at least Frescobaldi-Fischer-Bach, and finally: Frescobaldi intended *Tocata* and 'Rätsel-Ricercar'. This is then taken up by later generations as the archetype of prelude and fugue; this is the case with Fischer in his *Ariadne Musica* in 20 preludes and fugues - followed by 5 chorale preludes on hymns - and this is the case with Bach in his *Well-Tempered Clavier* as a prelude and fugue and in *ClavierÜbung* III as a prelude at the beginning and a fugue at the end; this includes a total of 21 chorale arrangements.

²It is also a fact that Bach copied Frescobaldi's *Fiori musicali* in his own hand. Unfortunately, this copy has been lost since the Lost during the 2nd World War.

OUTLOOK

Conclusion on the Frescobaldi - Fischer - Bach relationship:

Frescobaldi, puzzle piece from the *Messa della Madonna*:
4/2 [notation of the ricercar] vs. 3/1 [notation of the 6 notes of the riddle]
=

Bach, *Das Wohltemperirte Clavier* [II], Fuga in E major:
4/2 [notation for the eye] vs. 3/1 [*what the ear actually hears*].

Bach builds the bridge in WK II by referring to the Soggetti of the fugues in C sharp
and E [C sharp-D sharp-F sharp-E vs. E sharp-A sharp etc.].

With regard to Bach, this necessarily results in the
d i r e c t reference to Fischer's Fuga in E major and
the i n d i r e c t reference to Fischer's Fuga in C sharp
minor.

But in the key of C sharp minor, in accordance with Fischer's Preludes in C major and C
sharp minor, lies the dynamic starting point for the enharmonics of the later *Well-Tempered*
Clavier

using the paradox c-e vs. e-his.

And in Fischer's Fuga in C sharp minor, on the
other hand, there is a direct reference back to
Frescobaldi.

According to Christoph Bossert's analysis, further paths branch off here:

a)

Bach, *Das Wohltemperirte Clavier* [II], Fuga in E major:
4/2 [notation for the eye] vs. 3/1 [*what the ear actually hears*].

From this:

Gravitational pieces in 4/4 / 4/2 / 4/4 Largo as Pr C - Fg E - Pr g vs.
Pr e - Fg G - Fg h each in 3/8 as the smallest conceivable three-stroke type.

As a result

Pr C - Fg E [4/4, 4/2], Pr e - Fg G [3/8, 3/8], Pr g - Fg h [4/4, 3/8] result
in six frame pieces for an order of

9 + 6 + 9

Work pairs of 9

x 6 x 9 bars.

b)

Extension of this order using 3/8 time and 12/8 time in further pieces by Pr A [12/8], Fg b [eye
/ notation: 3/2; ear: 2/2]

Pr C sharp [4/4, then 3/8], Fg d [3/16 vs.
4/4] in 211 bars

*211 is the mirror number of
112; 112 is the numerical value*

for CHRIST.

c)

All other pieces of WK II count 6

x

9 x 6 x 9

=

6

x

9 x 9

x

6

Bars.

6 x 6 = 36 is called 'Signum perfectionis';

9 x 9 = 81 is the numerical value of the name 'Maria Barbara'.

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