

The Charm of Musical Notation (*Die Magie der Notenköpfe*)

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The strange way of putting musical ideas – which are physically acoustic events into graphic signs, in other words, the notation of music.

A score can represent:

- a. The Work
- b. Advice to the performer on how to play it

With any score we have to find out which of these two applies.

The (fixed) notation seems to ask for a fixed realization, but as the human individual is involved in the realization, a fixed interpretation of a composition is impossible (this would only be possible by a machine) but it should sound alive and as if it were free!

Example I



Today the opinion is that it

- a. should sound the whole value
- b. at a given pitch
- c. in a given dynamic

This opinion is wrong:

- a. the demanded sound can also be very short – depending on different circumstances
- b. the exact pitch depends 1st on the Stimmtonhöhe tuning pitch
2nd on the chosen scale system
- c. the dynamics depend on stylistic agreements, known to the musicians at a given time and a given place.

The role of the composer versus the performer has changed a lot in the last 700 years. – If you want to fulfil the wishes of a composer you have to be familiar with the written down - (for instance in tutors) and the unwritten - agreements between musicians and composers.

These agreements vary in different countries and they change permanently from generation to generation. – It is obvious that it is impossible to find out everything. So part of our knowledge is based on hypothesis.

Another question arises: A composition is written for the contemporaries and not for later generations. It has only become usual to play old music in the last 200 years. A composer like Corelli, or later, Bach never

thought that his works would be played after his death. He saw the works of his predecessors on the shelves of the library and sometimes looked at them, perhaps to study the older art of composition. However, he would never have performed it! – There are a few exceptions but they tell us that if an old piece of music (in the case of Mozart and Händel, “old” was not more than 30-50 years!) was really to be performed, it had to be transposed into the modern time! Mozart’s Händel had to sound as far as possible like Mozart and indeed it did. – So in principle the musicians had to perform only music by their contemporaries. It is obvious that the contemporary musicians had the necessary knowledge to satisfy the demands of the composers – but do we have this knowledge now, after 200 to 700 years? And, are we obliged to do so? What are the rights of a composer to have his work performed as he wants it? Centuries later?

I think the first question must be: Why do we perform works which are so old? And what is the goal of such a performance?

My opinion: Today it seems that the great masterworks of any time and of any culture are important forever, as long as mankind exists. Let me just mention a few examples of European art, although there are many more.: Greek Drama – Greek Sculpture – works by Leonardo, Michelangelo, Rembrandt, by Bernini, by Josquin, Monteverdi, Bach, Mozart... but the works of average quality die with their time. – This – the importance of the great masterworks at anytime - was not always the case.

Up to ca. 1800 only contemporary music was performed. Music older than 20 years was regarded as being out of fashion. From around 1800 this changed gradually and nowadays the percentage of performed contemporary music is extremely small (the reasons for this change would need a lot of other workshops).

As the interpretation of sculptures, pictures and architecture does no harm to the works themselves, it is not important if it is correct or not. Everybody sees different things in them and can feel the importance of the treasure. – But music is only available when it sounds. It seems that the richness of quality and of the message is so great that anybody could find and understand parts of the work – and may think they understand the whole. Every generation has a different approach – dictated by lots of influences, like the opposition to the view of the father-generation (very similar to the dialectic role in fashion) or by finding unknown or forgotten evidence. – The works seem to change but they stay as they are, the viewers change and the way of seeing and hearing changes – the richness in great works is inexhaustible. So whoever thinks he found the really right way to perform, or even to read a work by Bach will be laughed at a few years later by another one, who thinks he found the ultimate key. Research and findings will never end and never really be final or definite.

If a composer says something to his audience whose experience is identical with his – it must mean something different for a later audience with their different background. – Besides the influence of change in taste and because of fashion, there are other real changes, which influence the way of performance: The general changes in music :

for example, when a dissonance is used for the first time, it is a sensation (like a sharp spice in food), but after a while, when this sensation is over, you have to use even sharper spices to get the same effect. This leads from a seventh chord by adding a third to a ninth chord and by adding another third until the chord includes all 12 tones. – That means: If you play Bach or Mozart – with their understanding of dissonance at a later time, when everybody is used to the dissonances of Bruckner and Stravinsky for instance, and to the totally different music of a recent time – the shocks of Bach’s and Mozart’s music are no longer shocks at all.

Putting it simply: Mozart after Stravinsky is not the same as he was in his own time. We don’t follow his intentions if we play his music as he wanted it to be played – because he wanted a certain effect on our spirit. So a new component is added to the problems of performing early music. – But let us go back to the simple changes because of “fashion”.

When I was young, a period of excessive and exaggerated romanticism was over, (for instance Bach played like Tchaikovsky) – the reaction was: Bach played totally dry, impersonal (by conductors like Hindemith or Krenek and others). We, my colleagues at the music-academy in Vienna in 1948, we regarded that as inadequate. We found that the other arts of the Baroque period were so extremely passionate, the pictures of the great Italian painters, the sculptures of Bernini. We believed that this glowing passion is also in the masterworks of music and must be brought out. The audience has to be moved... so we tested the advice of the old tutors Tartini, Quantz and Leopold Mozart and many others. We tried to understand them and to fulfil their demands. At the same time we explored the qualities of the contemporary instruments and found them like teachers in the same direction (with the intention of fulfilling the demands of the composers).

So back to the notation, back to the score: In a score of – say – Bach, we find what I said at the beginning of the workshop: The work – and no, or almost no performing advice. That means if we play what is written, we don't hear at all what the composer wanted. A few examples:

Example II

The image shows a musical score for a recitative. It consists of two staves: a vocal line (treble clef) and a bass line (bass clef). The vocal line has several measures of music with red handwritten markings above it, including 'p p p', 'App.', and 'p p p'. The bass line has several measures of music with red handwritten markings below it, including 'played: o', 'p.', 's', 'p', 's', 'p', 's', and 'o'. The lyrics are 'Gelobet seide Herr Gott Is-rael, der sich in Gnaden zu uns wendet und seinen Sohn vom hohen Himmelsthron ...'.

There is a recitative. The bass-line long notes, a few figures underneath seem to indicate the demanded harmony; the singing-line looks orderly. Now to the rules of the tutors: if the singer follows the written rhythm he ignores the rules for rec. singing, which say:

- Telemann: “Beim Rezitativ geht es nicht im gleichen Takte sondern..., bald langsam bald geschwinder...” In a recitative it is not in the same measure but sometimes slowly and sometimes faster.
- Ph. Em. Bach: “...Rezitative werden ohne Rücksicht auf den Takt abgesungen, obwohl sie bei der Schreibart in den Tact eingetheilt werden.“
- Hiller: „Das Rezitativ wird ohne Beobachtung des Tacts gesungen, das ist bekannt...“ The recitative is sung without observing the measure, that is well-known.
- Schütz 1623: „... Ohne einigen Takt... hält nicht länger auf einer Silben, als man... im Reden zu tun pfleget“. Without any measure, do not hold a syllable any longer than is customary in talking.
- Türk: „Nie nach dem Takt... wenn nicht a tempo dabei steht“

The translation of Ph. Em. Bach and Türk could be:

- “Recitatives are to be sung without attention to measure, even though they are written in measures”
- “...never following the measure unless a tempo is written”

All sources explain that the rhythm must be taken as if spoken normally.

If the bass-line is played as written, with long sustained notes, it is a severe mistake; the sources explain:

- Ph. Em. Bach: “There are written long white notes, you have to play short staccato”
- J. Baumgartner: “It is against the rules to sustain the bass note, you must be silent until the tone changes”
- Petri: “The organ player must play short chords”

J. S. Bach himself follows interesting ideas: in the cello part of the *St. Matthew Passion* he writes short notes, (but in the score, as usual, long ones!) in the *St. John Passion* score and cello-part have long notes. This difference has caused a lot of interpretations: a change in his conception or a difference in both works. The right conclusion is simple:

Example III

St. Matthew Passion o = score ♩ = Continuo-part Jesus 4 c.

Da Jesus diese Rede vollendet hatte sprach er zu seinen Jüngern Da nun Jesus

war zu Bethanien, im Hause Simonis des Aussätzigen, trat zu ihm ein Weib, die hatte ein Glas mit köstlichem

6 4 2 1b 6 5b

Short notes are expected always and everywhere; it was only that in the *St. Matthew Passion* the cellist could not distinguish the *secco* recitatives for the Evangelist from the *accompagnato* recitatives for Christ; so he wrote simply what was to be played - but just in the cello part .

Even the figures under the bass-line can cause a lot of misunderstandings: figures can mean three things:

1. A shorthand score – they tell simply what is played by the instruments or sung at this place
2. Exact advice on what to play
3. A quasi shorthand-score (not to be played – just written for imagination and orthography).

Only in the second example do they tell us what to play – in the first and third they tell rather what should not be played – because it is played and sung elsewhere, and doubling was regarded as a mistake in continuo playing.

In some places in Bach’s scores you find simultaneously written **Example IV** and **Example IV** in different parts. Sometimes even an exact but wrongly understood following of the rules leads to severe mistakes: to overdotted **Example IV** the dotted rhythm separates it more from the triplets, but if there is a whole movement, like a Gigue, in triplet-metre, the dotted rhythm has to be played as triplets, for example, finale fifth Brand. Concerto (and many movements in cantatas).

Example IV



Example V

Rhythm causes the most complicated questions in this music because even or equal notes are not always easy to distinguish from uneven, unequal notes. Even written 8th-notes are very often to be played uneven (exceptions: if *nottes égales* is written, or if dots are above the notes, or, if *andante* is written...) Quantz writes in 1752: "... I must make a necessary remark concerning the length of time that each note must be held. One must... distinguish... between principal notes...or good notes...and... "passing" notes...called bad notes. The principal notes must...be brought out more than (the) passing notes...The fastest notes...(must), despite the fact that they have in appearance the same value, must nevertheless be played a little unevenly. Thus...the first, third, fifth and seventh must be held somewhat longer than the "passing" ones...But the holding must not amount...as much as...if there were dots after the notes."

I could add infinitely more examples of notation problems and of differences between the written and the required rhythm: I think you believe me, and the important question must be asked: Why does the composer not write what should be played? The reason: There was a strict separation of the task of the composer and the performer. The composer writes the work; that had to look beautiful, the long bass-notes had to be there to show the harmonic development at every point (as in the example II on page 4) – The reality, the performance, works with the illusion; the not-sustained note is there, one hears it just in the mind, in the imagination – if it would be played really, the setting would sound heavy, not transparent.

On the other hand, if the composer would write every note in the expected value, the score would look ugly and overloaded, it would not be possible to see the "work" – and the performer would be regarded too silly and incompetent, to see himself what he should play, he would be regarded just as a machine for doing the job . – This role of the notation of scores changed gradually, beginning at the end of the 18th century – little by little, rhythm, note values, dynamics (!), Articulation...became part of the composition and the score changed from the work – to a performing advice.

Maybe I should say also a few words about articulation:

Already in early 16th century- tutors the question of slurring or not slurring is mentioned. It becomes more and more important especially in orchestral music, because there a part is played by a group of musicians. – Normally articulation is part of performance and not of composition, but if the composer wants exactly one special slurring, he had to write it down. – My hypothesis, proved especially by the works of Mozart, is that

for instance dots mean mainly: do not slur. So if a great passage of 16th notes is without slurs but partly with dots

Example VI



(as in *Idomeneo*...), it indicates that it has to be slurred “in the usual manner wherever there are no dots”. – With Bach it is different: Some of his works are exactly articulated by him, some works have no slurs at all. As there is no significant stylistic difference, I assume the articulation has to be added (according to the rules) where it is not written. – Of great interest in that context are the original parts of the *B-minor-Mass* -

Example VII



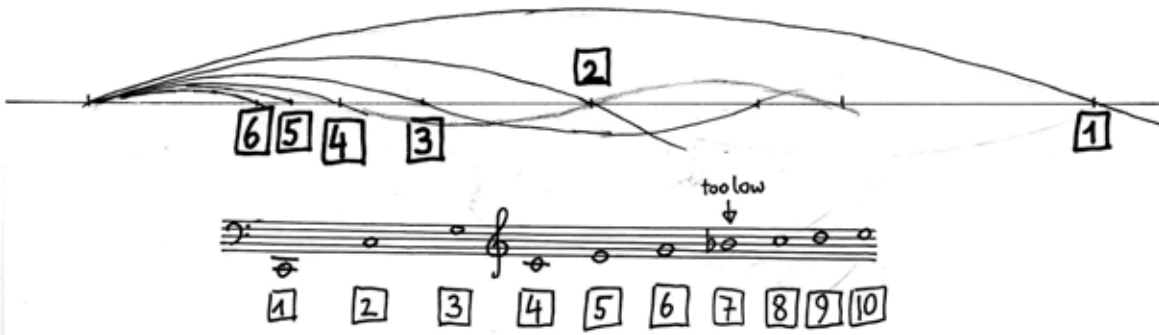
- where the articulation is written, but for example different in two or three violin parts and in the score !
If those parts were used at the same time, the musicians playing together articulate differently! The different articulations are of equal quality.
I made a test: The different articulations were played at the same time and the result was by no means chaotic but very convincing and colourful. So maybe, the modern idea that the bowing of a group has to be identical does not represent the former opinion then.

The lecture was interrupted here and came into the panel discussion.
The latter half of the manuscript was not presented.

The scale, the series of notes that form music, is one of the most important principles of music. Although the twelve-tone scale usual nowadays is hardly ever questioned by musicians, indeed hardly ever discussed, it is in fact well worth discussing.

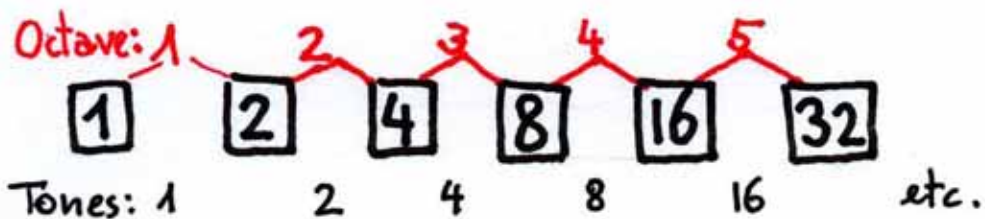
The basis of the scales used in European music is the natural scale or rather the overtones/harmonics of this scale.

Example VIII



[1] is the basic tone (let's say C) and every doubling of the waves (Verdopplung) is the same tone, in each case one octave higher.
 2 : 4 : 8 etc.

Example IX



This gives five octaves, we do not need any more in this workshop. (It can be seen that the 5th octave already has 16 natural tones).

[3] in the example VIII is the fifth to this (in other words G). Here too doubling always results in G one octave higher 6 : 12.

The first three overtones/harmonics can be produced very easily on a tense string and so that was how the first scales were formed:

Example X



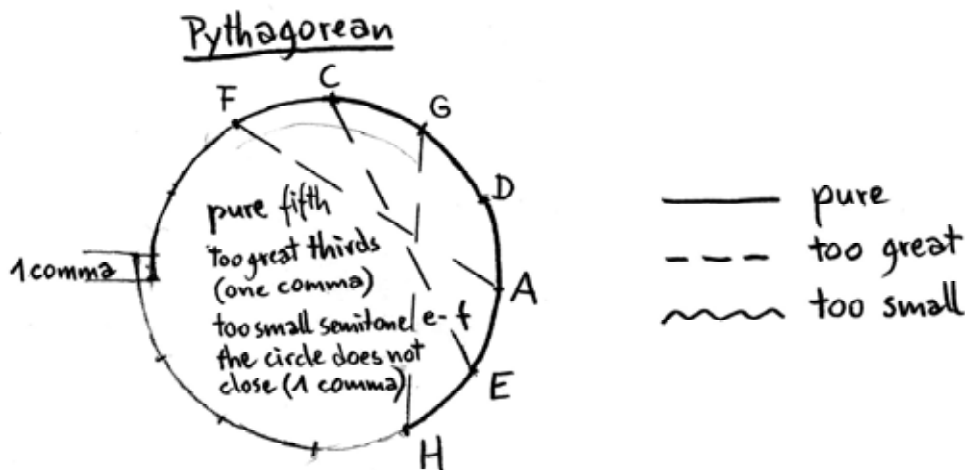
The 3rd natural tone built up on each other repeatedly results in a six-step scale: C D E F G A (the Pythagorean scale).

Example XI :

C D E F G A

This is the original scale of western music. It is wonderfully suitable for melodies but useless for harmony because the third that is formed here from 2 equal great whole tones is a dissonance. The Pythagorean scale was used as a basis some centuries before Christ until about 1400. Gregorian chant is based on this as are some of the earliest forms of polyphony.

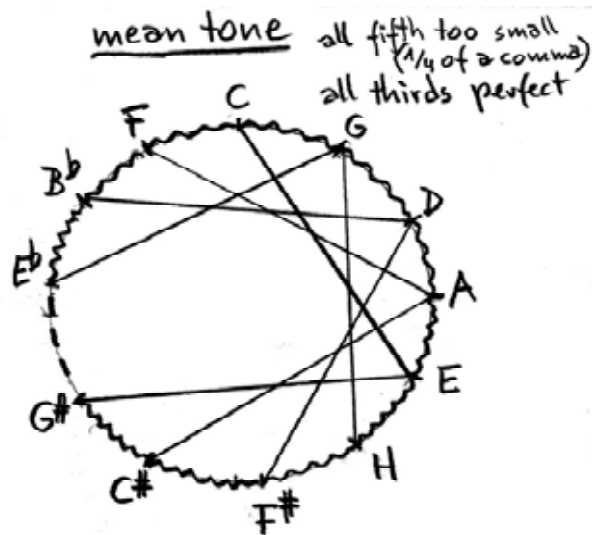
Example XII



If you form a circle of pure fifths – quasi pythagorean – it would not close but overlap (one pythagorean comma). You can use this system only for melodies. It has : pure fifths , thirds formed of two great whole tones and very small semitones.

The discovery of beauty of the (consonant) natural third (4 : 5 natural tone) disrupted the old system and allowed true polyphony , the basis of western music to develop. Therefore the 5 th natural tone , E , was introduced and replaced the dissonant E (developed from four fifths) in the pythagorean scale .

Example XIII



the circle does not close ($G^\# - E^b$ is $1\frac{3}{4}$ commas too big)
 All major chords are equal
 All great seconds are equal (mean tone) between great and small

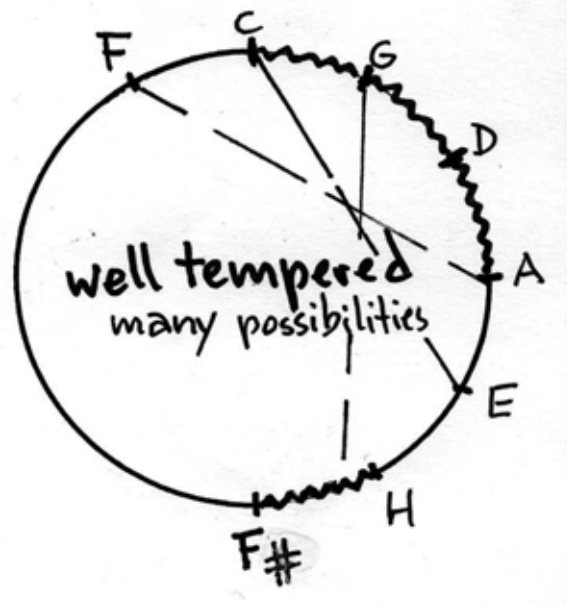
If you want pure thirds, the four third-creating fifths (C – G – D – A – E) have to be reduced for a quarter of a comma each, which gives a perfect Third (C E).

The circle cannot be closed because its fifths are reduced and the circle lacks eight commas. Normally that would be between G – sharp and E – flat, that interval was called “Wolf”. In this system only thirds (and octaves) are pure.

The whole tones are equal “mean-tones”. In the natural scale the whole tones are not equal $c - d - e = 8 : 9 : 10$; $d - e$ is a syntonic comma smaller than $c - d$.

In the mean tone system all possible scales are equal.

Example XIV



The desire to use all tonalities led to the so called well – tempered systems.

The pythagorean comma had to be distributed to the whole circle of fifths. There were many ways of distributing suggested from the second half of the 17 th century on.

The basic idea was to make F – major as pure as possible (perfect fifth , almost perfect third) , and the other tonalities stepwise less clean/pure , depending on the distance to F – major.

Today well tempered system is in use where the comma is distributed to all 12 fifths (1/12 each) – the equal temperament – this excludes tonality – characteristics and is useful only for the “Zwölftonsystem“ .