

From junior high school student to musicologist,  
for listener, player, creator and researcher of music

Is your music correct?

# "Manual of Music"

2023 ver.

Let us correct the wrong knowledge up until now in order to perform music correctly.

**This is how musicians play music.**

**Amateur and professional have the same goal.**

Guide of music for everyone

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NKB

# Manual of Music

2023 ver.

## Introduction

I think that I would be able to explain it in an easy manner that anyone can understand. So, I try to make it like Q & A.

This is what I feel when I teach music, especially performance. In recent years, there are too much information. Sufficient specialized education is shortened. And a close teacher-student relationship like [apprenticeship system](#)<sup>\*1</sup> of the past is lacking. Therefore, it is difficult to perform music correctly. And I am worried and come to even feel resistance.

Of course, I'm an expert in music, so I don't think it's a sufficient explanation. In the future, I would like to have experts in such fields as [acoustics](#)<sup>\*2</sup>, [music aesthetics](#)<sup>\*3</sup> and [music psychology](#)<sup>\*4</sup> provide commentary from their respective fields, and make it a complete collection of music commentaries.

Part 1 of this manual is a hierarchical list of questions. Explanations for the parts in bold are summarized in Part 2. Just Part 2 also works. In this 2023 ver. I also add sound samples.

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# Part 1 Question tree

## 1. Questions of those who try to do music

**Q1: Are you a genius? = "No."**

You are not a genius. Because you are reading this now. There are certainly geniuses in the world. For example, who is born with a very good voice or who sounds good when play an instrument for the first time. Even among [conductor\\*27](#), there are both with good sound and without it. Unfortunately, there are musicians without very good sound even though they perform very well.

However, no genius is born with the ability to create great music. This is because music is a field that is improved by study. And because it's an [art\\*11](#) that talks the emotions that come from every experience in life.

Musicians talk what they understood with various experiences.

The only skill that is absolutely necessary is the **talent to study** hard.

**Q1-1: Is talent necessary? = "No."**

It's definitely better to have talent. And there are some geniuses who have great talent. However, musical talent requires many kinds of abilities that cannot be described in one word. This is why luck is said to be part of talent.

Exercise ability is particularly important. It's better to have muscular strength, momentary power, endurance, etc., but we don't need them like an athlete. On the other hand, if these are far beyond the ability of ordinary people, it may rather give [a sense of incompatibility\\*5](#).

If you have a flexible posture both physically and mentally, you will be able to train the body you need and develop a rich sense of sensitivity.

It is important to have a positive desire to improve. Even more important is the ability to understand others.

In other words, it's fine if you have the same ability as ordinary people with good balance.

If you try to make music, anyone can do it.

**Q1-2: Do we have to go to study? = "The attitude of study is absolutely essential."**

You don't have to study to sing or compose your favorite songs by yourself. However, to learn the method, that is how to read score, how to play instruments and how to vocalize etc., from experienced musicians and experts in each field is the fastest and surest way, because music is a communication with others essentially.

The ability to learn from others is also an important skill. It's difficult to perform music correctly without learning.

The idea that music is something to be done with sensitivity and talent is lacking in knowledge. Or in the case that the owner of that idea is musician, it's an irreverent

self-satisfied attitude. I have to say that this is a completely conceited attitude.

On the contrary, if you make an effort and study, anyone can do it and become good at it. It is no different from speaking words. You should have known when you studied a foreign language that you did not become to be able to talk by yourself.

Learning is also communication, and you have to be able to do it.

The attitude of study is absolutely essential even if you don't go to study.

**Q1-2-1: What and how should we study? = "Life study."**

There are two things that you have to study. One is to have a lot of experiences in life and look at them. Therefore, it cannot be done overnight.

The other is to acquire the skill to turn those experiences into sound.

For that, it is essential to learn from the predecessors. Studying in one's own way, or only in a narrow world, not only causes biased or wrong method, but also hinders communication with others. That point is no different from life study.

Music is study.

## 2. Let us think about music.

**Q2: What is music? = "Comfortable experience."**

Music is to **have fun** with **sound**. And to have a comfortable experience.

**Q2-1: What is sound? = "Vibration."**

Sound is **vibration such as air**. If some meaning is consciously given to that **vibration**, it is sound used in music. In particular, [tone color<sup>17</sup>](#) and facial expressions are important elements to convey feelings like words.

**Q2-1-1: What is vibration? = "Movement."**

On a large scale, vibration is the movement of the universe, and on a small scale, it is that of elementary particles.

**Q2-1-2: What is air vibration? = "Compressional wave."**

Air vibration is called compressional wave of the air. Continuously, sparse and dense areas of the air occur alternately.

It is 1 hertz (Hz) if it occurs once per second.

Between approximately 16-30,000 Hz, it vibrates the ear drum and is perceived as sound. By the way, 440 Hz is set to [one-lined a<sup>6</sup>](#), but these days, 442 Hz has become common. Our ears perceive even a difference of 1/100 per just one second.

**Q2-1-3: What is such as air? = "Everything you can feel with your body."**

Not only through the air, but also vibrations felt with the body, such as those that resonate directly in the bones and are caused by low-frequency pollution of Shinkansen bullet trains, etc. can be called sound.

It is well known to audiophiles that inaudible high-frequency also affect sound quality.

**Q2-2: How do we have fun? = "Listening, playing and composing."**

There are three ways as **listening**, playing, and composing.

**Q2-2-1: What is pleasure of listening? = "To feel."**

It's not particularly difficult, but that **just listening** isn't fun enough. It is heard these days that whether it is plants or alcohol, listening to Mozart's music will make them grow faster or mature into delicious.

If you think of music as thing to feel a comfortable vibration, you can say so, and that is the ultimate music.

**Q2-2-1-1: Besides just listening? = "To image."**

Do you just watch movies, novels and paintings, etc.? Just like there is a phrase "read between the lines", it is fun to read **the author's [intention](#)<sup>\*71</sup>** while imagining various things from the contents of the sentences. Music is exactly the same. However, sound is **[abstract](#)<sup>\*7</sup>**. What is imagined from that is **[empathy](#)<sup>\*8</sup>** based on one's own experience. The music you listened for the first time when you were sad evokes sadness, no matter how happy the music is.

Once the sadness is healed, you may be able to enjoy for the first time.

**Q2-2-1-1-1: What is the author's (composer's) [intention](#)<sup>\*71</sup>? = "One's everything."**

You will be able to explore things that depend on the composer's **[staging effect](#)<sup>\*9</sup>**, the way of thinking, the era in which the work was composed, the environment in which the composer was placed, one's upbringing and even the **[deep psychology](#)<sup>\*10</sup>**. Deep reading is also like a peeping, but it's definitely something to be interested in, and one of the great pleasures.

### 3. About performance

**Q3: What is to perform? = "To talk on behalf."**

Half of the fun is listening to it ourselves. The other half is to talk on behalf of the composer's **[intention](#)<sup>\*71</sup>** through understanding the music, and **talk to the audience** about what we feel. Or, it can be said that it is an act without words, or a ballet without motion.

Either way, there is a [story<sup>\\*13</sup>](#), and it is performed by the script (score).

In the West, score is sometimes called script.

### Q3-1: What is to talk to the audience? = "We also talk to ourselves."

Talking in words is easy, because it is our daily. Problems arise when we try to talk by sounds.

In performance, it is necessary to have **positive tone**, as if talking to the audience, because the communication is always one-way. However, we have to be careful not to **become self-righteous**.

In addition to talk to the audience, the players must also talk to each other and to themselves in the future and answer.

#### Q3-1-1: Do we talk to ourselves in the future? = "Music is [art<sup>\\*11</sup>](#) of time."

Music is [art<sup>\\*11</sup>](#) of time. The sound we made just now is already a thing of the past. Therefore, we are always talking to ourselves in the future.

#### Q3-1-2: Do you become self-righteous? = "[We can't tell a lie<sup>\\*15</sup>](#)."

It is said that there are various [interpretations<sup>\\*12</sup>](#), however correct [interpretation<sup>\\*12</sup>](#) is the only one. It's just the music in the composer's head. In addition, different from words, it is difficult for us to notice for an **incorrect expression**. Words in script don't change the [story<sup>\\*13</sup>](#) so much. But sound expression changes it easily, because it makes meaning itself.

Self-satisfying expressions only evoke [empathy<sup>\\*8</sup>](#) of a few people. Not only that, but sometimes rather [disgust<sup>\\*14</sup>](#) even occurs. On the contrary, if we do nothing, it seems to be rude and neglect.

Music conveys emotions well than words. [We can't tell a lie<sup>\\*15</sup>](#) by [sound<sup>\\*22</sup>](#).

#### Q3-1-2-1: How about incorrect expression? = "Due to one's immaturity."

Incorrect expression is caused not only by wrong understanding of music, but also by immaturity of [playing technique<sup>\\*69</sup>](#) and expression.

The problem is whether it is conveyed just as you want.

#### Q3-1-2-1-1: What is [playing technique<sup>\\*69</sup>](#)? = "It is technique of communication."

Every expression technique is for **communication**. Not only how to express ourselves, but also how to interact (score reading, [4. ensemble](#)) with other performers and composers.

#### Q3-1-2-1-1-1: What is communication? = "To [4. ensemble](#)."

We communicate with not only audience, but also co-stars, in addition ourselves in the past and in the future.



The sound we just made is the same as sound of someone else, and we who listen to the sound we just made are the same as others. It is interesting because it is [art of time\\*16](#).

It can also be called an [4. ensemble](#).

### Q3-1-3: What is positive tone? = "Mimicry."

It is facial expressions of sound, [tone color\\*17](#) or intonation. In Europe, intonation is used in a sense that includes every musical element as pitch, rhythm, dynamics, nuance, etc. It means nuance here.

And [tone color\\*17](#) as word is special expression that can mean the opposite depending on how to use. That is mimicry.

So to say, it is a **sound** to a tone.

### Q3-1-3-1: What is dynamic? = "Expression itself."

There is no need to explain that there are *p* and *f*, however in music, it's not just about dynamics as volume. There is some kind of expression or intention there.

For the sound of thunder, surprising volume is naturally necessary. No matter how small a sound is, it means nothing if we can't hear it.

Unexpectedly, it is often seen that volume is reduced as inaudible. It is necessary to make decisions based on a **relative balance with the whole**. ([4. Ensemble](#))

The volume as an expression is an element that cannot be separated from the [tone color\\*17](#). There should be no meaningless dynamics.

Moreover, the way of determining or changing the volume like the audio adjustment scale is wrong.

### Q3-1-3-1-1: What is relative balance with the whole? = "That depends on the performer's sense."

Not only the volume but also the [tone color\\*17](#) balance is a very important factor. In the balance of volume, the relationship of power takes precedence over anything else. So, it is important to understand the overall relationship. Because it vibrates the air in the same space, the entire sound imagination must be unified.

As for the [tone color\\*17](#), just like the color scheme in a painting, if the color is similar to the background sound, it will be buried. If each player decides on their own [tone color\\*17](#), the whole becomes unclear.

It is necessary not only to always be in order, but also to have a suitable balance, that depends on the performer's sense.

**Q3-1-3-1-1-1: What is [tone color\\*17](#)? = "Sound expression."**

[Tone color\\*17](#) is used for the same meaning as sound. And it includes also expression of [rising edge of sound\\*22](#) and of word [consonant\\*18](#).

The difference in [tone color\\*17](#) is said to be due to the included [overtone\\*21](#) of the sound. However, from the point of view of [music psychology\\*4](#), it is felt by the difference in the [rising edge of sound\\*22](#).

**Q3-1-3-1-1-1-1: What is [rising edge of sound\\*22](#)? = "About [consonant\\*18](#). "**

At the beginning of the sound, there are clear pronunciation and bursting expression.

Most of the sounds we hear daily are clear pronunciations. However, emergency sirens and the sound of the wind evoke emotions such as anxiety or loneliness with "unclear" pronunciations that are not heard very often. Percussions, strings and the piano can make only distinct pronunciations. Wind instruments need **tonguing** technique. These correspond to [consonant\\*18](#) of word.

**Q3-1-3-1-1-1-1-1: Is tonguing necessary? = "Necessary."**

Tonguing is the most important technique for wind instruments. It is a method of using the tongue to make sound with a constant pressure and speed from the beginning.

When we make a sound, if we start from level 0, the pitch of the sound slips up and calm due to **the doppler effect**. No matter how quick we breathe out, we can't solve the problem. To solve it, first keep the same breath pressure as when we stabilized in our mouth, and plug the gap between our lips or the lead with our tongue.

After that, we can get a stable sound as soon as we pull out the plug.

It's difficult to describe in words, but it's the same as [consonant\\*18](#) pronunciation. The [consonant\\*18](#) "p" when saying "pah!" is the clearest pronunciation, and it is perfect tonguing when we put tongue on it. The word [attack\\*23](#) is also used, but it tends to be misunderstood because it has a strong

aggressive image. Anyway, no matter how gentle we talk, clear pronunciation is essential.

We Japanese are not good at clear pronunciation. This is because there is not much [reverberation\\*46](#) in the acoustics of daily life, and even if there are no [consonant\\*18](#) in Japanese, it is not a big problem. But we can't hear clearly in a space with a lot of reverberation or echo, such as a western building or a bathroom.

For example, meaningful words without [consonant\\*18](#), such as "a-o-i i-e (blue house in Japanese)", are rare in the world.

**Q3-1-3-1-1-1-1-1: What is the doppler effect? = "The effect experienced when sound of an ambulance siren passes by."**

The doppler effect is well-known in Einstein's theory of relativity.

It explains that an ambulance's siren is high when it is approaching and low when it is leaving. The distance between a wave of air is shortened by the speed of the moving car in approaching. Then the sound becomes higher. And that is extended in leaving. So, the sound becomes lower accordingly. Not limited to wind instruments, the pitch changes if sound is made while moving.

**Q3-1-3-2: What is sound? = "It's clear part."**

Considering the neat sounds used in music, most of the parts are clear. However, there is rather noise when the sound starts up.

The former is usually called sound. The structure of the sound is made up of [overtone\\*21](#).

In the voice and wind instruments, the sound is made by the shape of the space in the mouth (**embouchure** which is the pronunciation form of [vowel\\*18](#)), [the space inside of the body\\*19](#) and [the tension of the muscles\\*20](#). And it can be freely changed.

**Q3-1-3-2-1: What is [overtone\\*21](#)? = "Sound components."**

Even if it is one sound, many sounds are mixed together. These are no unrelated sounds and everything is in an orderly relationship.

The lowest sound is called the fundamental tone, and it is made up of sounds with frequencies that are integral multiples of the vibration of that sound, that is, [overtone\\*21](#).

In some cases, they cancel each other ([phase difference\\*47](#)).

**Q3-1-3-2-2: What is embouchure? = "Shape of [vowel\\*18](#) mouth."**

When pronouncing words, we change the shape of our mouths to make various sounds. Embouchure is used as the tension of muscles for the form of space in the mouth.

In Japan, we live in a very anechoic environment such as tatami mats and shoji screens. Not only the sound of words does not become rich, but the sound of [vowel\\*18](#) becomes hard. So, if we try to speak clearly, it becomes like a yell.

For example, TV drama or stage actor's lines always sound like they're yelling.

Another example is the installation of sound-absorbing boards in the music classroom to make it anechoic.

The acoustic environment of Western life is like living in a stone room, so to speak, in a bathroom. Since they live in a place with a lot of **reverberation and echo**, it becomes very noisy if the sound is not always clear.

Therefore, in order to make words distinctly, clear [consonant\\*18](#) pronunciation and rich-sounding [vowel\\*18](#) are essential.

**Q3-1-3-2-2-1: What are reverberation and echo? = "Sound of acoustic space."**

[Reverberation\\*46](#) is said to be good for 2.5 or 3 seconds in concert halls. That is the sound of the cave-like acoustic space created by the high domed ceiling which is one of the characteristics of European architecture.

Echo is also an element to create [reverberation\\*46](#)reverberation, but usually, the sound that bounces directly is called echo.

**Q3-1-3-2-3: What does it mean to create resonance with our bodies? = "Because body is an instrument."**

How to make sound is easy to understand by the structure of strings. First, the bow rubs against the string and vibrates. The vibration is transmitted to the resonance box through a bridge, which amplifies pure [overtone\\*21](#) and attenuates sounds that do not resonate.

In voices and wind instruments, the bow corresponds to the breath, the string to the vocal cords, lips, reeds, etc., the bridge to the teeth and skeleton, and the resonance box to the body.

Certainly, sounds are made by the whole body.

We say such as "instruments sound well". But correctly, it should be said that "the body resonates well."

## 4. Ensemble

**Q4: What is ensemble? = "[Mutual awareness](#)\*24."**

Ensemble is the most important act when playing music.

That is "[mutual awareness](#)\*24". It is also a feeling of caring for others, including the audience, and great music is impossible without [mutual awareness](#)\*24.

Even when you ignore, if you are consciously ignoring the others, it may be said to be an expression.

In that way, how you relate to the whole influences the overall expression. When we recognize the existence of each other, listen to each other's claims, and respond to them, it becomes great performance. Neither win nor lose each other.

No matter how accurate a performance is, it cannot be good if each player is only making sounds in an orderly manner. In that sense, the performance becomes something different every time, and always has [improvisation](#)\*25.

**Q4-1: What is [improvisation](#)\*25? = "Natural relationship."**

Specifically, if someone starts playing a little prior, we have two choices. One is to try to undo it with the next note, or the other is to encourage it more and increase the tempo.

We have to judge and decide which one, and that naturally reflects the will of the person.

In other words, it is not something that can be decided in advance, and responsiveness is necessary.

As for the pitch, the intention is reflected more clearly. Whether or not the sound connects with the previous sound **is determined by the next sound**.

In other words, as long as the pitch has a [natural relationship](#)\*26 with the previous sound, it can be said that the sound is connected even if it is not mechanically captured accurately. And if the sound dares to be corrected mechanically, the connection with the previous sound is lost.

**Q4-1-1: Is determined pitch necessary for chord? = "No."**

The lowest note (root note) always determines the pitch of the chord. No matter how mechanically accurate the sound (equal temperament) is, if it is out of relation with the bass, the audience cannot think that the sound is in harmony. They feel that the low notes are correct and the upper high notes are off. The pitch must be corresponded relatively.

**Q4-2: Is commander necessary for ensemble? = "No, ensemble is an ideal society."**

At first glance, the form of musical performance seems to be a group that requires totalitarian leadership. However, it consists of a perfectly ideal social structure. Even the opinion of one person cannot be overlooked, and it naturally affects the whole. But there is also majority decision. However, the direction of the whole is not necessarily influenced only by the power relationship. It is always ensembled.

One for all, all for one is practiced.

## 5. Conductor<sup>\*27</sup>

**Q5: Is a conductor a commander? = "No, one of the players."**

Conductor<sup>\*27</sup> also works in an ensemble. It is one of players.

It seems like a dictator, but if one behaves like that, it'll only become a catastrophe. At one time in the former Soviet Union, conductor was seen as dictatorial, so orchestra tried to play without conductor. However, there is a history of complete failure. After all, it was proved that orchestra needs conductor.

There is no doubt that the conductor<sup>\*27</sup> is a leader, but that does not control each player with a tact. That has an obligation to make move in the right direction while looking at the whole. However, if own ideas are forced, it causes confusion. In the past, when conductor<sup>\*27</sup> was owner, there were such things, but now it is impossible.

**Q5-1: Conductor<sup>\*27</sup> leads everyone, doesn't it? = "No, everyone moves forward together."**

A famous conductor<sup>\*27</sup> in the past once said, "Conducting must drive, not carry."

Players also have to move forward the music holding their own will and a strong relationship with each other, rather not only following the conductor's direction. It is ideal if it becomes a single organism<sup>\*28</sup>.

Bad conductor<sup>\*27</sup> is called "the first violin conductor" and it warns conductor<sup>\*27</sup> who asserts oneself by holding a leading position.

The ensemble is exactly like a three-legged race<sup>\*29</sup>. It's something that everyone helps each other to move forward together.

cf. "Manual of Conducting"

## 6. Comprehension for music

**Q6: What is comprehension for music? = "It is understanding for the composer."**

Music is something that is **spoken by sound**. And it is necessary to understand works and composers through scores except the music composed by themselves.

Score does not say anything, so it is necessary for the viewer to read it actively.

It is easier to understand the intention of the works of great composers. Therefore, the depth of the content can also be felt.

**Q6-1: How to speak by sound? = "Use our own words (music)."**

Letters of music written in score are notes. And symbols and comments are attached to them. First of all, it is necessary to look into the composer's head and find out what kind of sound and [melody\\*48](#) was ringing inside the composer.

Then, we sing and play instruments as if it were our own music, and talk to the audience.

**Q6-1-1: What is score? = "Musical blueprint."**

Score is a blueprint for composer to convey one's intention to players. It can be said that it is graph with pitch on the vertical axis and length (time) on the horizontal axis.

Other [dynamic signs\\*30](#) and various **symbols and words (comments)** are written. Although reasonable descriptions are written in order to convey the information accurately to players, it is often rather difficult to read.

This may be the reason why the first edition is often used even that have many revised editions.

**Q6-1-1-1: What is [dynamic signs\\*30](#)? = "Not the strength of sound."**

Dynamic symbols are represented by signs such as *f* and *p*, but they do not simply indicate the strength of sound, but also teach us various expressions.

*ff* and *pp* are double strength, *mf* and *mp* are half strength. *m* (mezzo) means half.

Although it's not its original role, we can also know the beginning of a phrase from where the symbol is written.

We can know it clearer by manuscript.

**Q6-1-2: What is note? = "Sound itself."**

Musical notes represent the pitch of sound with oval head, and the length of it with vertical line, flags or so.

**Q6-1-3: What are symbol and word (comment)? = "Annotation."**

Until the era of Mozart, score consisted mostly of notes. After that, various symbols and comments have come to be written in order to convey the composer's intention more accurately or to arrange the playing form. Symbols such as accent, staccato, and slur were originally written as to determine [how to play strings\\*31](#).

In addition to the composer's description, there are also things added by later editors. They require special attention and must be restored to their original description.

**Q6-1-2-1: Is it different from what we learned in school? = "Not enough."**

Music texts we usually study (the subject for learning the basic rules of music) teach us how to deal with it without much

mentioning the original meaning. For this reason, there are many cases where the expression is incorrect.

For example, staccato is not meant to be played short (in half). Sometimes lightly, sometimes heavily, it is written to make each sound clear.

Fermata means "stop" in Italian. It doesn't mean to hold or make longer moderately.

Slur must be played smoothly, of course. However, since it also originally indicates [change of bowing](#)<sup>\*32</sup> for strings, it does not necessarily indicate unity of music such as phrase.

The three elements of music are explained as [melody](#)<sup>\*48</sup>, rhythm and harmony.

There is no objection to that, but we must understand that there is a relationship between them.

[Melody](#)<sup>\*48</sup> includes rhythm. Of course, the rhythm as element probably comes from the concept of expressing only the rhythm of steps such as dancing. However, in capturing the rhythm as music ([melody](#)<sup>\*48</sup>), all rhythms exist within [melody](#)<sup>\*48</sup>.

On the other hand, if sound exists, also harmony is there.

Since sound is always accompanied by [overtone](#)<sup>\*21</sup>, those [overtone](#)<sup>\*21</sup> create harmony.

When there are multiple notes, the components of overtones as harmony are determined. And stronger harmonies are created. In other words, if there is [melody](#)<sup>\*48</sup>, harmony accompanies it automatically.

That is, when there is [melody](#)<sup>\*48</sup>, both rhythm and harmony always accompany.

On the contrary, in music, there is no rhythm without sound, and harmony without [melody](#)<sup>\*48</sup> is meaningless.

Music is [art](#)<sup>\*11</sup> that accompanies the passage of time, and if we try to understand it on a score, we tend to focus on the state of the moment. And it is easy to tend to end up with digital processing. Those should be admonished.

The life of music is in its flow. Focusing on the flow and analyzing the vector is the important way to approach the essence of music.

#### Q6-1-2-2: What is musical unity? = "[Motif](#)<sup>\*33</sup>."

Music, like as words, also can be considered by dividing the [melody](#)<sup>\*48</sup> into sentences, phrases, clause, words and so on. There are bar lines and beats in score. So that, these make it difficult to find unit.



But if you listen to it, it's not difficult.

Just like when we talk, if we don't think of at least the smallest meaningful unit ([motif](#)<sup>\*33</sup> "phraset") as clause, it becomes difficult for the listener to understand. Especially with voices and wind instruments, it also causes unnatural pitches.

In many cases, right processing of this point makes people say "I can understand this music well" or wrong way makes them say "I don't understand!"

cf. **Theory of Phraset** "Manual of music reading"

## 7. Problem about pitch

**Q7: What is pitch? = "Relationship of sounds in the natural world."**

Originally, composer is trying to put the music in one's head.

Pitch of sounds in the natural world cannot simply be expressed with 12 tones. However, it is possible to classify roughly (as equal mathematically) one octave into 12 tones.

[Temperament](#)<sup>\*37</sup> that is arranged according to the approximate classification is called **equal temperament**. Generally, the piano, the organ, keyboard instruments, etc. are **tuned** to this [temperament](#)<sup>\*37</sup>.

**Q7-1: What is to tune for ensemble? = "Everyone adjusts their instruments on the standard sound."**

Tuning is the process to **tune** the [standard "A"](#)<sup>\*34</sup> sound at an orchestral concert, etc. First, the oboe plays the note "A", and then everyone adjusts their instruments on the standard sound.

For strings, the state of the instrument always changes. Because the material is made of wood, it expands and contracts depending on temperature and humidity. Therefore, it is necessary to tune frequently. However, since the pitch is originally determined by the place where the finger presses, delicate pitches are made with the fingers.

In the case of wind instruments, tuning is basically unnecessary. This is because the length and capacity of the instrument do not change depending on the day or the environment, and even if they change, the effect is small. With a certain amount of tuning in advance, there is almost no problem. Reed instruments, etc. may sometimes require minor changes due to changes in reeds. Therefore, it became customary to start with the oboe, which is difficult to tune.

**Q7-1-1: Why do we tune? = "To find the center."**

Specific vibration of instrument is determined by the capacity and specific gravity of its vibrating body. It is the air inside the wind instrument that determines its capacity. The specific gravity depends on the temperature of the air, that is player's breath, etc. And the speed of breath causes **the doppler effect**.

For that reason, the pitch of the instrument has some width, so it is necessary to find the center. But it doesn't need to be done on stage.

**Q7-1-1-1: So, what are we doing? = "Checking the sound."**

There are two main purposes of tuning. One is to stabilize the condition of the body and [sense of pitch\\*54](#). Another is to check the sound balance and tone sense of the hall and the whole. It's not only limited to adjusting for each.

**Q7-2: What is just intonation? = "[Temperament\\*37](#) as all is harmonious."**

When the frequency of sound is doubled, it is said to be one octave, and it is felt as the same kind of sound. When it is tripled, it is felt as about the middle of one octave higher. If this is repeated 12 times, the note becomes almost the same as the original note ([circle of fifths\\*35](#)).

And even one sound contains many sounds based on this relationship. This is called [overtone\\*21](#).

If [temperament\\*37](#) is made with only these sounds, it becomes very harmonious.

Otherwise, if the relationship between all notes is made into an integer ratio to make all harmonious, it is called just intonation.

However, it should also be remembered that music does not always have harmony.

**Q7-3: What is equal temperament? = "Approximate temperament."**

However, once the standard sound changes, it becomes [temperament\\*37](#) with considerably different pitch. So that the equal temperament was made by the approximate pitch. As a result, sounds in correct equal temperament are distorted, except for sounds that are one octave apart.

Then it is impossible to hear beautifully harmonized music. However, the sound is very flexible and has a function to change to harmonize constantly.

Sounds with strong power or sounds that come out many times become the standard, and other sounds change so as to harmonize with it. This is the effect of resonance.

If the scale of [overtone\\*21](#) is drawn on a [graph\\*36](#), it becomes a parabola. So, if the standard is changed, it can be imagined that the original curve will deviate.

**Q7-3-1: What is [temperament\\*37](#)? = "Scale."**

[Temperament\\*37](#) can be called scale. There are various scales around the world. The key note ([tonic tone\\*39](#)) and its harmonic low magnification [overtone\\*21](#) form the foundation for all of them. And the whole is in [parentage\\*38](#).

**Q7-4: How can we get a good pitch? = "We just have to know the whole music."**

The most important thing is to know the whole music. To know is a very nebulous thing, but it is what we do all the time when we talk. It is difficult to understand sentences that are talked without understanding the content. So, first of all, understand what you are trying to say. In music, to put it simply, it is [key\\*40](#) and [tonic\\*39](#).

Music always tries to return to [tonic\\*39](#). Just like gravity on earth.

Therefore, on the contrary, music that expresses the weightless outer space uses music that does not have **sense of tonality** ([atonal music\\*40](#) such as [twelve-tone technic\\*40](#)).

The power to return to the [tonic\\*39](#) shows the [key\\*40](#) of the music.

Therefore, player must always be conscious of the [tonic\\*39](#) and feel the power to return to it.

Of course, the power differs depending on the note.

The [dominant\\*39](#) has the strongest power to return to the [tonic\\*39](#). And it also has the power to pull other sounds. There is also such a [fractal state\\*41](#). So, we have to know the whole and to where we want to go in the end.

#### **Q7-4-1: What specifically? = "As to make voice."**

The most reliable thing for us is our own body and the voice that uses it.

When we try to make voice of some pitch, our body becomes the most natural condition for the pitch of sound ([form\\*42](#), lift).

Therefore, when we understand the music as a whole and the final goal, all we have to do is to make all the sounds in that [form\\*42](#).

Then all the sounds we try to make become [overtone\\*21](#) and it becomes [temperament\\*37](#) by natural overtone.

However, not all the sounds are equally pleasant. Of course, [overtone\\*21](#) close to the [tonic\\*39](#) resonate comfortably. But the distant overtones are quite severe. Not only that, but it also changes depending on the relationship (chord) with other notes when the note is produced, that is, the relationship with the base note (root note) of harmony.

And the tension of producing sound that does not harmonize with the root note makes distortion [resistance\\*43](#) (stress) with other sounds. And it becomes the power of expression that evokes various emotions. This is the function of [non-harmonic tone\\*44](#). And the [resolution\\*45](#) that occurs when it shifts to the next sound brings a very refreshing feeling. But once we get the basis wrong, the relationship becomes the opposite.

That's why we should know the whole, pay attention to other sounds, and understand the relationships in detail.

cf. "Manual of music reading"

#### **Q7-4-1-1: What is [form\\*42](#) or lift? = "State of body when singing."**

[Form\\*42](#) or lift is commonly used, yet one of the most difficult things to be explained.

For example, sing a certain note, or try a different note. This changes the point of abdominal muscles tension. If the sound is the same, the point is also the same.

The tension can be said the lift.

Of course, it changes depending on the sound. However, it is better to keep it the same as possible (always on the [tonic\\*39](#)) rather than changing it frequently. And we cannot make low sounds by high tone lift, however low tone lift resonates high sounds richly and reliably. Moreover, since only harmonic [overtone\\*21](#) are made, it becomes very good. Positions of it on the body are only about one octave from F to F.

Most of the causes of out-of-tune are due to the wrong way of taking this lift standard.

**Q7-4-2: What is good pitch? = "It is always determined in relation to the reference tone."**

The pitch is not always harmonious contrary to the just intonation theory. Harmony is one of the elements of music, but it is not the case that all sounds are always in harmony.

Sound that harmonizes is called [harmonic tone\\*44](#), and sound that causes dissonance is called [non-harmonic tone\\*44](#). They are mixed.

To make a [melody\\*48](#), it doesn't sound beautiful without either tone. In a [melody\\*48](#) that smoothly moves to adjacent notes, these two types of notes appear alternately.

[Non-harmonic tone\\*44](#) is that [resists\\*43](#) harmonization.

[Harmonic tone\\*44](#) cannot be well-ordered and distortion-free unless the relation of [overtone\\*21](#). It is always determined in relation to the reference tone, that is the lowest tone (bass) at the time.

**Q7-4-2-1: What are harmony and chords? = "Sound made by two or more tones."**

Harmony or chord is a change in sound made by two or more tones.

In harmonic theory, it is triad consists of three notes as the root note, its most consonant perfect 5th note and the intermediate note.

Triads with root notes of [tonic\\*39](#), [dominant\\*39](#) and [subdominant\\*39](#) is called primary triads. And its harmony consists of [overtone\\*21](#) of the reference tone ([tonic\\*39](#)) of the [key\\*40](#) of the music, and has the main function of characterizing the [key\\*40](#).

**Q7-4-2-2: Do we always have to think of chords? = "We have to be conscious of whether it's in harmony or not."**

Due to the development of the study of harmonic theory, it is said that "All music is made of chords." However, when analyzing music, chords are what explain how each moment is. Music is not made by chords.

Sound always contains [overtone\\*21](#), so [reverberation\\*46](#) of sounds produced one after another remain and overlap each other. So, consonant sounds are getting more and more amplified, and dissonant sounds are attenuated.

It's a [phenomenon in nature](#)<sup>\*47</sup> completely, and we have to be conscious of whether it's in harmony or not.

**Q7-4-2-3: Which is more important, harmony or melody? = "[Melody](#)<sup>\*48</sup>."**

Of course, melody is more important. Instead of making note harmonize, if the [melodies](#)<sup>\*48</sup> are aware of each other, they are distorted or harmonized. And changes in harmony are born.

**Q7-4-2-3-1: Is there [melody](#)<sup>\*48</sup> in accompaniment as well? = "There is always."**

There is also melody in accompaniment. We should always think that all music is made up of [melodies](#)<sup>\*48</sup>.

A continuation of two or more notes is necessary for a sound to have meaning. Very rarely, there are expressions of only single note sound, such as shout of ah! oh! yah! or in the case when we are surprised. However, in most cases, multiple notes join to make sense.

Even if in simply creating harmony sounds like the background, there must be always [melodies](#)<sup>\*48</sup>. (chord progression, cadence)

The sustaining pedal point of the bass is also [melody](#)<sup>\*48</sup> to lead to [resolution](#)<sup>\*45</sup> sound that ends finally.

There are also many [melodies](#)<sup>\*48</sup> that continue even with rests.

**Q7-4-2-3-1-1: Do we need to try to find [melody](#)<sup>\*48</sup> constantly? = "We have to read in score."**

Score is like sentences written only in alphabet without spaces.

Therefore, we have to read the meaningful minimum unit corresponding to the clause of words.

**Q7-4-2-3-1-1-1: Bar line is a break, isn't it? = "It's not punctuation mark."**

Bar line is not punctuation mark or so. Rather, meaningfully related notes often across bar lines. Because Western intonation rarely puts the accent at the beginning of a word except for emphasizing. Because it usually has an [article](#)<sup>\*49</sup>, the accent comes after it. That kind of intonation makes up the daily melody sense. The bar line indicates where the accent is.

So, on the contrary, Japanese [melodies\\*48](#) usually start with down beat. Therefore, [melody\\*48](#) is often cut off at the bar line.

Countries like Russia and the Czech Republic don't have [articles\\*49](#) in their words either. Also, the music of such countries often has intonations similar to Japan.

The melody is not created on the score, but is written by improvising and changing each sound in the head. Therefore, it is also necessary to read the pattern. However, there are only a few types of patterns.

cf. "Manual of music reading"

## 8. Problem about rhythm

**Q8: What is rhythm?** = "Intonation of [melody\\*48](#)."

Rhythm is the intonation of [melody\\*48](#). Even when talking, a good tone of voice is said to have a good rhythm. The rhythm of dance is also originally derived from the rhythm of talk.

It's not about keeping the tempo mechanically and dividing the time according to the beat. In other words, **rhythm is the expression** of each note, not how they are combined. Therefore, explanations such as where the accent is in the rhythm group and where it is shortened are not correct.

**Q8-1: In syncopation, it is said that accent is changed, isn't it?** = "Not intrinsic."

In syncopation, it teaches, "The short note that comes on the first **down beat** should be weak and be added staccato to shorten, and the next must be accented." It's not intrinsic at all.

The note that comes on the first **down beat** is the reaching note of the [melody\\*48](#) that precedes it, and it becomes calm and stands stops. That expression is broken and the next new [melody\\*48](#) suddenly starts from the **up beat** as if it jumps out. That is syncopation.

Therefore, it is not always a pattern like "du dah da". Syncopation frequently occurs even in [melodies\\*48](#) that consist of notes of the same length.

**Q8-1-1: What are down beat and up beat?** = "Easy-to-understand phrases for explaining intonation."

Up beats and down beats are very useful and easy-to-understand phrases for explaining intonation.

It's easy to get it wrong, but it's just for the sake of explanation. It is not a matter of making it stronger or weaker when playing.

The beginning of the beat and the right side of a bar line are down beats and stronger than the others. If one beat is divided into two, the beginning of beat is still stronger than the others. If it is divided into three, the beginning of beat is stronger than the others. The three parts are called (strong, weak, weak) respectively. But in reality, this is about the rhythm of minuet. Normally, (strong, weak, medium-strong) just like [swing\\*53](#) are correct.

But we have to be careful. The fact that the beginning of the beat is down beat does not match the fact that it is the beginning of phrase. In music, it is more common to have an up beat before it. ([Auf tact\\*50](#))

**Q8-2: What is expression of rhythm? = "Change of sound."**

When the expression of sound is drawn in Figure 1, most sounds in the natural world gradually disappear like this.

Figure 1.



Sound such as buzzer, mosquito wing noise and hum of machine hardly change.

The sound of breaking glass is a momentary sound.

It seems that there is reverberation, but it is a psychological problem.



Siren, sound of the wind, etc. have a special sound beginning.

It evokes an unusual feeling.



**Q8-3: What are tempo and meter? = "Words that describe flow."**

Tempo is time as mean flow or speed in Italian. The speedometer is also the tempo meter.

Similarly, [metronome numbers\\*51](#) represent the number of beats per minute, which is the basic unit.

Beat is a scale to indicate the tempo. Even if the sound is the same for one second, if we take it as one beat, we feel slow flow, and if we take it as two beats, we feel marching and walking flow. By the way, it's two steps long.

Since it is originally a scale, it does not stand out except when emphasizing it.

When these beats gather in groups of 2, 3 and 4, and a certain repetition is established, each is called 2 meter, 3 meter and 4 meter.

**Q8-3-1: What is the difference between 3/4 time and 6/8 time? = "2x3 and 3x2."**

3/4 meter is triple time of simple meter, and 6/8 meter is duple time of compound meter. Both are pendulum movements ([swing\\*53](#)).

When writing that [swing\\*53](#) into score, consider 2:1 unequal ratio rhythm.

If we add them up, it's 3 (beats), if we put them together, it's doubled to 6 (beats), if we put 3 of them together, it's 9 (beats), and if we put 4 of them together, it's 12 (beats). These are not even rhythms.

**Q8-3-1-1: What is [swing\\*53](#)? = "Movement of a [swing\\*53](#)"**

[Swing\\*53](#) is the movement of the pendulum. But the starting point (node) is the bottom.

In other words, it is at the point where it stops at the end, and it is the point for both the beginning and the end.

Considering the movement from there, it lifts up in two beats and returns to the original point in one beat.

If the top is taken as the starting point, the expression of the movement changes. The starting point must always be at the bottom.

How to take the starting point of the beat is also related to the intonation. In Japan, the part of the beat is conscious digitally, and in the West, the expression between the points is conscious in an analog way. It can be said that this makes a difference.

**Q8-4: What is beat rhythm? = "Intonation or step."**

Music has its roots in singing and dancing. The rhythm of singing is intonation. The rhythm of dancing is step.

Rhythms of steps can be roughly classified into two. One is bouncy uneven rhythm like the sound of horse's running hooves. It's called compound meter. The other is rhythm in which the beat is evenly divided into two halves, and is called simple meter.

**Q8-4-1: Is simple meter the basis of music? = "There is no simple meter in nature."**

Simple meter is thought in the human mind and has been developed along with egalitarian thought since the beginning of the 19th century. However, compound meter is rhythm in nature, including the pulse of the heart, and has been the main of the rhythm of music since long ago.

In modern music, there is another type called [mixed meter\\*52](#), which alternates between simple and compound meters. However, in Greece, the Middle East, etc., it has been in the dance steps from the old days.

**Q8-5: Is in-tempo necessary? = "If possible."**

Sense of tempo is an important skill of player, just like [sense of pitch\\*54](#). In addition, the sense is more unstable than the [sense of pitch\\*54](#). If we feel restless, tempo becomes more and more slow, and if we feel busy, tempo becomes more and more rushed. If there is no



sound, the tension increases and we are going to not be able to take it anymore, but if sound is heard, time passes soon.

Therefore, it is necessary to prepare the mind. **In-tempo** is indispensable as a training for that.

Fluctuation<sup>\*55</sup> is also necessary for the natural flow of the performance. However, if it is not recognized, it doesn't become an expression. The flow must be comfortable for the audience.

Of course, there are cases where very accurate tempo is required, and sense of **in-tempo** is necessary.

**Q8-6: How should we express rhythm? = "As our usual talk."**

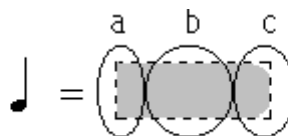
That music has flow and movement means that each sound has a flow and expression of movement. If the flow is always the same, the music surely becomes monotonous. In the case of the harpsichord, the organ, electronic sounds, etc., expressions cannot be added. In order to compensate for this, the tempo is changed consciously.

On the other hand, if an effect not to change tempo is used, it become very urgent and can give excitement.

With percussion instruments and the piano, everything is expressed at the moment of pronunciation, and after that it depends on the reverberation. However, for other players, the way the sound is sustained is the rhythm, and it is an important means of expression that makes the flow of music.

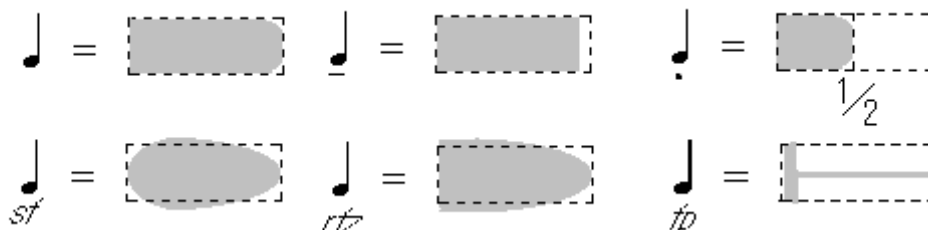
By the sound ends manner, it can also express whether it is going to connect to the next sound or not.

Figure 2.



a: rising edge of sound, b: sustention of sound, c: close of sound

Expression is available on each.



Expression method for the piano and percussion instruments is easy to explain rhythm and tends to teach rhythm expression by the dynamics of the sound. But the rhythm has to be caught as intonation.

Again, it's not about **allocating time**.

It is good if we can express intonation as our usual talk.

**Q8-6-1: What is allocating time? = "To read without thinking about the meaning."**

When reading the rhythm from the score, it is always considered how to divide one beat and how many beats there are. However, if it is read as [melody\\*48](#), the existence of the beat is not visible.

Composer analyzes one's image and writes with digitally beats. So, when it starts jumping out from the middle of the beat, the last note of the previous [melody\\*48](#) is cut off in the middle against to the originally necessary length of the sound.

The way the horses run, "trot-trot" and "clip-clop" are written in the same rhythm. If written in words, the former seems to be walking slowly and relaxed, while the latter has running expression. However, it is difficult to distinguish on the score.

**Q8-6-1-1: Isn't dotted rhythm on a beat-by-beat basis? = "Shorter note is an ornamentation."**

Basically, in Western Europe, it is rare for the sound to be ornamented after a long sound like the "[kobushi\\*56](#)" in Japanese folk songs. [Ornament\\*57](#) comes in front. Therefore, shorter notes must be attached so as to [ornament\\*57](#) the original note that comes after. Then, the original note is naturally at the beginning of the beat, and the ornament note jumps out in front of it.

Rather, it is unnatural to try to put the ornament note at the beginning of the beat, and it is very difficult without consciousness. However, in actual play, it naturally comes in front without even trying so.

The part that starts like this is called [auf tact\\*50](#).

\*\*\*\*\*

Mozart dared to resist against the imperial court of the time that always favored flow with [auf tact\\*50](#). He composed to begin with down beat and showed rebellion against the nobility and his father. In the Pastoral Symphony, Beethoven deliberately changed the same form of [melody\\*48](#) shape into that without [auf tact\\*50](#) and used it to represent the countryside.

The countryside at that time was now Hungary, the Czech Republic, Slovakia, etc. And there is no doubt that he used melody by the intonation of the local language there. For Beethoven, who was born in Bonn near France, that intonation must have given a very unique impression.

cf. "Manual of music reading"

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## 9. About composing

**Q9: What is to compose? = "To combine."**

Composing can be called music creation, and in the world of popular songs, it is the job of writing down the melody as it comes to mind. However, originally it means to skillfully change or compose [melodies\\*48](#).

There are both cases that melody is created by oneself and [old melody\\*58](#) is used.

Both Mozart and Beethoven used [melodies\\*48](#) written by others to compose a lot of music, but no one would call them plagiarism.

Expression by variation, combination and [orchestration\\*59](#) is the work of composition.

**Q9-1: What is expression of composer? = "To create a story."**

Shortly, what composer expresses is to create **development of story**. The form of presenting, developing, expanding and concluding in sequence in writing sentences is exactly the same as the concept of [sonata form\\*60](#) of music. Story and music are inseparable, even considering [opera\\*61](#), which played a major role in the development of Western music.

In modern times or in the Baroque period, **composers played themselves**. And there are also works written considering only the value as music quite purely ([absolute music\\*62](#)).

**Q9-1-1: What is development of story? = "Passage of time."**

The development of the story is no different from the script of the acting. There are even cases that score is called script.

Rather, good feature of music is that it can be expressed more **three-dimensionally** than what is written in plays, and also that the passage of time can be written in [real time\\*63](#).

**Q9-1-1-1: What is three-dimensional? = "It is [polyphony\\*64](#)."**

There are forms such as canon and fugue. The same melody has a slightly delayed start, or different melodies are played at the same time. Then, sometimes it resonates very beautifully, and other times it sounds muddy. It is interesting that the different melodies interact with each other. This kind of music is called [polyphonic music\\*64](#).

Harmony is what explains the sound of each moment.

**Q9-1-2: Do composers play? = "In the old days, composer = player."**

In the era of J. S. Bach, the player and the composer were identical. In other words, playing was composing, and those who only played were not considered musicians.

Even in modern times, [computer music\\*65](#) is becoming popular and returns to the past.

**Q9-1-2-1: How was it played (composed)? = "Improvised."**

The method of composing was [improvisation\\*25](#), but if melody is just played on a whim, it gets stuck soon. And there is a limit to create something new. Therefore, variations are added on the basic [melody\\*48](#). Furthermore, variations are added to the variations.

**Q9-1-2-1-1: How do we improvise? = "With combination of patterns."**

[Improvisation\\*25](#) is not difficult. [Motiv\\*33](#) of each [melody\\*48](#) is varied according to some fixed patterns ([ornamentation\\*57](#)).

Most of it can be said to be the pattern of finger movement in performance.

It was not uncommon it happened by chance. It is also evaluated as the individuality of the player.

**Q9-1-2-1-1-1: Is it different from jazz [improvisation\\*25](#)? = "Fossil of music in the past."**

It is just the same as jazz [improvisation\\*25](#). Jazz was brought to America by the Puritans of J. S. Bach's era as music of that time on board the Mayflower. It is music developed on the basis of African melodies, home of the slaves, and retains the [prototype of Baroque music\\*66](#).

**Q9-1-2-1-2: Is the way of composition different today? = "The same."**

The method of composing was the same as today. Improvised melodies were just [written down in score\\*67](#).

Of course, they were added later or assembled into large composition.

However, composers supplement with [various signs\\*68](#), etc. in order to communicate without exchanging words directly to have many people play.

**Q9-1-2-2: Are composers of today not players? = "Specialization have been progressed."**

In modern society, the division of labor has progressed, and even in the world of music, composers and players are almost separated. However, knowledge of [playing techniques\\*69](#) is necessary to learn to compose, and there are many composers who are successful also

as players. However, since it is not possible to master the [playing techniques\\*69](#) of all instruments, there are many cases where the description is not sufficient.

On the other hand, like Mozart, if one's [father\\*70](#) is great violin teacher, the description is very accurate. So, there is no need for later musicians or editors to supplement.

**Q9-2: Should player ask composers for explanation? = "They will not reveal their true intentions."**

If the composer is still alive, we naturally want to ask for an explanation, because just only the description of the score is not enough to communicate. However, in many cases it does not lead to a solution. This is because there is not only the composer's [intention\\*71](#) in the origin of the work, but also many elements created without even the one's awareness, such as one's upbringing or [deep psychology\\*10](#). And because there may be some parts that one doesn't want to be touched. Questions are often answered with "either is o.k." or "it doesn't matter much". However, there are many things that are not important to the composer but special to others.

Unexpectedly, we can see the real honesty of the person in the score. Score is the only means of communication for composers. If it is not understood, it doesn't make sense and cannot communicate. The work goes on its own.

**Q9-3: Is composer a genius? = "Reward for effort is talent."**

Returning to the first question, all composers learn, study and compose good works.

We can't do anything with music if we rely on talent without making any effort.

## Part 2 About music

(Some supplementary notes\* of Part 1 and explanation)

In Part 1, I showed the answers to the questions of people who want to do music and the knowledge that they have learned wrongly until now. In this Part 2, I supplement the answers in Part 1 and comment on music in general.

*sound no.* You can listen to the sound on the website.

### §1 Music has not only freedom and peace, but also philanthropy.

#### 0. What is music?

Music should be something that everyone can enjoy. But it is believed that it is the exclusive property of a few talented people.

Certainly, in the last 300 years, people called geniuses such as Bach, Mozart, and Beethoven have been celebrated in the world. In order to increase the value of their works or to add the value of selling dreams, they couldn't reveal to the effort and study that they have had.

The digital divide is different from the past, and now we can get various knowledge anytime and anywhere. Music should be brought back to everyone's hands without mysterious ability called talent. And everyone should be able to enjoy music by gaining knowledge and practicing.

Music, especially playing and composing, is knowledge and technique. Ensemble, chorus, etc. are the ideal form of society. So, without democracy, good performances cannot be expected. The proof is that such a presential performance form developed after the French Revolution in 1789 that transformed feudal society into modern society under the slogan of liberty, fraternity and equality.

Indeed, it produced nationalism, totalitarianism and even dictators. However, in a sense, it should have been the voice and hope of the people. Otherwise, it is being nurtured into a system that can reform even that. It was natural that art, a medium that could not express the ideology of sound like music, could build ideal society one step ahead.

It is called the Kingdom of Karajan because the organization aimed to dominate business like Bill Gates rather than he tried to be a dictator. Therefore, musically, he receives only average evaluations, and no one says that he has surpassed his predecessor Furtwängler of the Berliner Philharmoniker.

The fact that he was finally rejected by the orchestra is proof that the world of music is truly democratic. The issue of whether or not to add a female player to the orchestra which was the trigger was completely resolved after that. Now there are many female players joining it. The orchestra never discriminated. It is obvious that it was a resistance to Karajan's tyranny.

Music is a society that has not only freedom and peace, but also philanthropy.

#### 1. Apprenticeship system

Music began in prehistoric times when humans were born. It is said to be the oldest human activity.

It was the Greek and Roman eras that first gave value to music as art. Music in those days was a comprehensive form of entertainment that included theater and ballet, much broader than range of today's music. The style of that time is still inherited as opera today. And music has also developed independently.

Rights are always present, not only in music, but also in any other field. Music was established as a style and also has become an object that was passed on. It's too cheap to interpret music technic as a right. However, if it is regarded as an academic teaching system, we can understand the meaning.

Either way, the apprenticeship system for music were born to be born.

However, as a major element of music performance, the individual's qualities may be the decisive factor. If someone's physical aptitude is much superior to that of ordinary people, that is said to be a genius and is respected. For example, that has a good voice, one's fingers move fast, etc. Therefore, opportunities to create new lineage formation are relatively frequent.

The disadvantages of the apprenticeship system are often mentioned. However, there are many advantages.

Perhaps the most well-recognized advantage of it in modern times are the human contact with the teacher, and to learn from the human relationships. These include learning from bad examples and are sometimes more intimate than the parent-child relationship. I have also learned from many teachers, and what I am most proud of is that I learned from good teachers. Also, I boast that I feel the lineage of the teacher who is connected to the uninterrupted line.

Group education is the norm nowadays, however one-on-one education is still being practiced in music education. It may be a matter of course for music education that deals with heart-to-heart contact.

## **§2 Frustration for explaining music in words**

### **2. Acoustics**

Sound is a sense that everyone is in contact at any time. However, the sound is not uniform.

Everyone knows the calmness of the acoustics as the feeling of standing in a wide-open field. The stillness that evokes its unreliability and eerie feeling is the feeling caused by the lack of sound.

Many singers who returned from studying abroad in Europe keep really rich voice. However, after a while, their rich voice gradually disappears. The cause is the difference in the acoustics of the living environment.

Recently, even in Japan, concert halls are designed to have sufficient reverberation. It is said that the acoustic design is as good as that of the famous halls in Europe. However, I still feel something different.

Once, there was an episode at the Musikverein saal in Vienna. "The Japanese engineers who came to inspect the museum only took measurements with machines, and showed no interest in the structure under the floor and inside the walls, those were guided by hall staff." It became a hot topic among people involved in music in Vienna. They probably wanted to say that the materials and structure were more important than the results.

Or, when Japanese instrument developers were also working on copy of Vienna instruments, they said "How to perceive the sound was completely opposite."

Japanese players often say, "The instrument sounds well." They don't say, "This makes the room sound well." It is this difference that explains the daily resonance in our living spaces.

In other words, even acoustics cannot be discussed with ignoring human emotions.

### **3. Aesthetics of music**

In writing this article, I can't help but feel the frustration of explaining music in words.

"Mathematics developed during the Greek period because it tried to express music in mathematical formulas.", one Greek scholar said. Rather, I feel like it's certainly easier to understand.

Music and emotion cannot be separated. The composer's emotions and personality are often captured and discussed, because works that express the emotions of the 19th century Romanticism are the core of music. However, it seems that there is also a need for a study that deals with the value of performance itself by the sound that can actually be touched and felt. In other words, it is putting the cart before the horse to discuss about the beauty of music only by dealing with composers. I think we should pay attention to the players.

I feel the need to pay attention to the emotions of the performance and the thoughts of the performers, rather than just saying whether the performance is good or bad. There should also be music performance aesthetics.

### **4. Music psychology**

It is quite conceivable that music has various influences on the human body and mind.

Especially, the various emotions of works have the power to evoke the listener's experiences and emotions in the past. Human musical sense includes visual illusion, sense of touch by vibration, etc. for example. If music is seen as an issue with all human senses, it proves that there are still more meaningful ways to use music and that makes sure of its existence.

## **§3 Familiar sounds in the natural world**

### **5. Sense of incompatibility**

Not limited to music, sense of incompatibility occurs by seeing or hearing something different from our daily life.

In particular, music accompanies the passage of time, so it is necessary to pay sufficient attention to its flow and movement.

Recently, computer music has flooded. And in particular, the mechanical flow and pitch became audible all the time. Its inflexibility strains people's senses and causes them to feel irritable.

Music that goes on and on without a breath is a very effective way of playing to create a sense of urgency. However, if it is used too much, it loses its effect gradually.




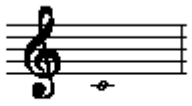
Besides, the sense of urgency and tension is increasing incompatibility somewhere in our feelings.

Similarly, even about the sound volume, an extremely loud sound in the natural world still evokes a sense of uneasiness.

After all, familiar sounds in the natural world are comfortable for us.

## 6. one-lined a

Score example 1. one-lined a

|   |                         |  |                         |
|---|-------------------------|--|-------------------------|
| one-lined a   | <a href="#">sound 1</a> | one-lined c  | <a href="#">sound 2</a> |
|  |                         |  |                         |
| a   |                         | c  |                         |

The sound when the air vibrates 440 times per second (440Hz) is called one-lined a [sound 1](#).

However, the standard pitch of 440Hz is not used much recently, and 442Hz [sound 3](#) is the mainstream.

At the international conference in 1939, the international pitch (435Hz [sound 4](#)), concert pitch (440Hz [sound 1](#)), etc. were integrated into one, and 440Hz was established as the international standard pitch.

At the beginning of the 19th century, the era of Mozart and Beethoven, it is said to be a little as about 1/4 pitch lower than today, around 430Hz [sound 5](#).

However, why are C major and tone of C the center of music, even though the standard note is A?

So, I tried to find out what kind of sound 1Hz would be.

Surprisingly, it is C.

Of course, it's approximate, but when 1Hz is adapted to C conversely, a becomes 427Hz [sound 6](#) of Mozart's era. It's amazing.

Even with the unit of 1 second, 1/86400 of a day was determined before the recent agreement as an accurate unit. Even so, I can't help but feel something mystical or the sharpness of human senses about the frequency being set to the sound of c as 1 second.

After all, it is a comfortable sound for humans.

Click each Hz to hear the sound.

427Hz [sound 6](#) 430Hz [sound 5](#) 435Hz [sound 4](#) 440Hz [sound 1](#) 442Hz [sound 3](#)

## 7. Abstract thing

It doesn't make much sense to say that music is abstract because it's invisible.

Even if it's invisible, the sound evidently exists and can be captured.

It is only one tendency of modern composers to regard things expressed in music as abstract things. The most music concretely imitates the sounds of nature. It is captured as completely concrete thing including insect noise that only Japanese can recognize or expression of silence as "... (shi-----n)".

Some musicologists say as disdain that to perceive music in that way is "not thinking deeply about the music". However, just explaining everything in a difficult way is not academic.

The motive of Beethoven's symphony No. 5 in C minor sounds like a knock in every way.

And Beethoven himself said, "This is how fate comes." As such, the concept of abstract destiny remains, but as an actual sound, it is reasonable to think it as a sudden visitor's knocking.

Score example 2. Beethoven's symphony No. 5 in C Minor Op. 67 beginning [sound 7](#)



The musical trend in Europe, not only in this era, has not departed from opera.

In other words, it can be said that the music expresses a scene of specific story.

It can also be said that the Romantics tried to express abstract images.

## 8. Empathy

I think everyone has been reminded of emotions based on their own experiences through the stimulation of music.

Our emotions felt from music are never unexperienced.

No matter what kind of emotion, even if we don't remember, it should evoke new emotions based on deep psychology, childhood experience and what we have certainly experienced somewhere or at some time. Even if we omit things that have not been proven, such as previous life experiences and genetic memories.

If we encounter something completely unexperienced, we will surely be just stunned.

It can be said that artistic expression is just something that communicates through the empathy of the author's intention and those who see or listen to it. We cannot accept anything beyond our own experiences and we cannot understand anything else.

Also, the sender cannot express anything beyond one's own experience. However, it should also

be known that the deep parts out of notice are possibly looked into.

However, does exactly the same sympathy really exist?

#### **§4 To increase one's emotions**

##### **9. Staging effect**

Staging is a common work of course in the theater field. In music, it is thought as special work for opera and ballet. However, musical work itself is theatrical as score is also called script.

Staging effect is in music, too.

Sometimes the work is evaluated as "dramatic". However, the plot of the drama is the structure of the work and it forms a large part of good or bad work.

That is the perfection of the work, and it is an important technique to impress the listener. Needless to say, the effect is necessary everywhere, such as the natural excitement and increased tension toward the climax.

But it's not a pretentious expression at all such as taking an eccentricity, being exaggerated and calculating for inducing tears.

##### **10. Deep psychology**

The material of music is that we usually hear. It's not completely new music that someone created. If it were so, we would not accept it as melody or music at all.

In that way, even if a composer, that is "composition with music" rather than creating melodies and sounds.

Then the important thing is when, where and under what circumstances the material was got. That's what gives meaning to the music.

Our ears memorize countless sounds, melodies, etc., but we are not sure when or how we heard them.

Moreover, even though people listen to the same music and melody in similar situations, it is not the same completely for each.

It is a world where we can feel the subtle differences.

It exactly reflects the deep inside of the musician's heart.

##### **11. Art**

What is the boundary between art and entertainment?

Without fear of misunderstanding, it may be only the technical difference between professionals and amateurs.

I have repeatedly said that artists do not rely on their talents. They store knowledge and create art by repeating practice.

In the world of entertainment, also there are things and people that can be called art and artist. On the other hand, there are people who, while calling themselves artist, rely on just their own talents and work hard only to sell the name without making any effort. Even if they are professional in business, they cannot be called artist.

Also, there are many cases in which amateurs reach the world of art by right education and earnest learning.

There are many examples. Especially in competitions, we sometimes encounter unexpectedly high-level performances of junior high school students. Even well-known performers play really poor music. Besides the will of the people themselves, I can't help but doubt the insight of the leaders, that is, the conductors.

Moreover, even among music college students who aim to become professional musicians, there are many cases in which they do not aim to become artists. And some people say that such study is not necessary to be one of players. But that is vain, too.

The reason why an artist is an artist is humility and an attitude of insatiable pursuit.

## 12. Interpretation

The word interpretation in music is often used, but many of them are used to hide their lack of study.

Even when I look back on myself, I said "I want to interpret it like this" when I couldn't fully read the contents of the work and couldn't understand it. I thought it must be that way to show my personality. I'm really blushing.

Certainly, there is a limit to reading other people's deep minds. It is not possible to time slip back to that era, so frustratingly. However, most of it is in the past of 200 or 300 years ago at the oldest. We don't need to bother looking into those times. Think a little, then the answer comes unexpectedly.

However, we sometimes fall into a pit easily. When it is thought as the same as nowadays, it is often convinced as mistake of score.

Dynamics is an example.

The pianoforte (piano) was born, and the reason why it was given that name is, needless to say, that the dynamics can be produced freely. In other words, it must have been impossible to control the dynamics of instruments before that.

That is, it is clear that dynamic control was not only impossible, but also not being imagined. Nevertheless, today's big-name performers add crescendos and diminuendos to Mozart's and Bach's works without hesitation and play them.

Beethoven would have been the first to discover that the effect was so emotive.

His symphony No. 9 in D minor IV, before the Great Fugue, chorus sings "Ahnest du den Schöpfer, Welt? (Do you sense the Creator, world?)" as to explode from the softest *pp* to the loudest *ff* sounds in 10 seconds. (Score example 3.)

Score example 3. Beethoven's symphony No. 9 in D Minor Op. 125 IV [sound 8](#)

The image displays a page of a musical score for the fourth movement of Beethoven's Symphony No. 9 in D Minor, Op. 125. The score is arranged in a system with multiple staves. From top to bottom, the staves are: Flute II (Fl. II), Clarinet II (Cl. II), Bassoon II (Fg. II), Trumpets I, II, and III (Trb. I II III), Soprano and Alto voices (Sop. Alt.), Tenor and Bass voices (Ten. Bass), Violin I and II (vln. I II), Viola (Va.), and Violoncello and Bass (Vc. Bass). The woodwinds and strings are marked with dynamics such as *pp cresc.* and *ff*. The vocal parts have lyrics: "Ah - nest du den Schöpfer. Welt?". The score is written in D minor and 4/4 time.

As an experiment with the piano, an example is the beginning [sound 10](#) (Score example 4.) from Schumann's Piano Etude on Capriccio by Paganini Op. 3.

Score example 4. Schumann's Piano Etude on Capriccio by Paganini Op. 3 beginning [sound 10](#)

The image shows the beginning of a piano score for Schumann's 'Piano Etude on Capriccio by Paganini, Op. 3'. The score is written for piano and features a complex, rapid passage. The music is characterized by dense, overlapping textures and is marked with *sf* (sforzando) dynamics. The score is written in G major and 4/4 time.

Furthermore, Schumann was initially interested in this kind of expression on the piano, and eventually tried it in his own symphonies. (Score example 5.)

Score example 5. Schumann's Symphony No. 1 in B flat Major "Spring" Op. 38 I

from beginning bar 6 [sound 9](#)

The image shows a page of a musical score for Schumann's Symphony No. 1, Op. 38, I, starting from bar 6. The score is for a full orchestra and includes parts for Oboe (Ob.), Clarinet (Cl.), Bassoon (Fg.), Violin I (Vn. I), Violin II (Vn. II), Viola (Va.), Violoncello (Vc.), and Bass (Bas.). The key signature is B-flat major and the time signature is 3/4. The score shows a dynamic range from piano (p) to fortissimo (f), with a crescendo (cresc.) in the lower strings. The woodwinds play sustained chords with some melodic movement, while the strings play a rhythmic pattern of eighth notes.

### 13. Plot (story)

Opera is interesting. It is not difficult at all. In the era when there were no movies or television, opera was. It's full of entertainment and fun, and it's also artistic. It's also pleasure of deep content. The most important point of those elements is that the story is easy to understand.

During the Renaissance and Baroque periods, the plot of opera is Greek mythology. Since Mozart's era, it is satire of the decadent life of the nobility, adapted to the social movements of the time. And in post of the era, daily events that occur in society are made into opera and called as verismo opera. Racial, colonial or religious issues are taken up, and entertainment-filled issues are handed over to operetta.

But in that operetta as well, satire is a main subject, just like in any other artistic field.

Music tends to be abstract. Then it appeals by having plot of such a clear message to attract the interest of the general people. It is often taken also in rock and pop music, and it is not particularly devalued.

There is a tendency to despise such a concrete approach in symphonies, etc. However, it seems

nothing but a hypocritical act of deifying the composer and trying to be the oracle of that god.  
It is impossible for a human being to act without a plot.

### **§5 The sound reflects the personality.**

#### **14. Disgust**

As long as it expresses human activities, what ordinary people hate will still be disliked.  
Especially the physical ones, such as performance without breathing.

Every singer or wind instrument player hopes that it is nice to be able to do so. And technique called circular breathing was invented. But how effective would that be? Audience is listening with bated breath during that technique. And it becomes unbearable.

Even if it's not disgusting, there's no reason why it doesn't feel unnatural.

Besides that, there are many other examples. And there are also works that can be understood as differences in the sense of social background of the work, such as "Salome", etc.

#### **15. Can't tell a lie**

It is said that there are two types of great actors.

When acting crying, one of them is really sad and sheds tears. The other appears to be crying sadly, but one's feeling is calm.

In the world of music, the performance of the latter is seen through. Of course, it cannot be pointed out that players were not crying in the performance. However, the performance sometimes becomes indescribably transparent or intrusive.

For example, even if an eloquent speech, it is often deceived in face to face. However, unexpectedly, the tone is exposed on the phone. No matter how well the talk is, the person's intentions are somehow understood in talking for a while.

It is said that it is common for con man to meet actually and persuade.

Our ears are so sensitive, and the sound reflects the personality.

### **§6 Human still can't control time.**

#### **16. Art of time**

Time is one of the most important elements in music. Another thing would be theater.

However, in theater, it is possible to change the time freely, and the discretion of the director and actors matters. It is possible to put the actor's intention into it.

In music, this part is prescribed by the composer. And we must read the intention of the composer from score well. Therefore, the message is clear. The sense of time, however, requires practice to grasp.

Let us think about which is longer, when the phone is ringing or not. It's the same perceptually, however the silence is about three times longer as Score example 6. It works like a visual illusion and it's easy to make a mistake.

Score example 6. [sound 11](#)



Because of the sense above, when there are notes and rests of the same length, notes tend to be played very short unintentionally. As long as the composer indicates the exact length of the note, that would be wrong.

Score example 7. Sound illusion

If we look at the score on the left and play, it tends to be like the right. [sound 12](#)



If we play it accurately, it sounds like the right. [sound 13](#)



Properly learned composer writes accurately.

More important thing is that music is given only one chance.

Because performance has only one chance, it is not possible to modify it later. We work hard day and night for just one moment.

Most recording is usually edited afterward. However, the live recordings without editing are often better.

It is of course that the concentration and the situation at that time cannot be repeated. And even if there was a mistake, what the situation at that time produced can be convinced to some extent.

So, humans still can't control time.

## §7 The relationship between words and music is quite deep.

### 17. Tone color

It has been said for a long time that tone color can be distinguished by its different overtone components.

It was at the time of trying to create tone color with electronic instruments that objections began to be raised against that. No matter how overtones were changed, the tone color did not change as expected.



Therefore, a psychological test was held. When the subject listened to various sounds, if the beginnings of the sound was cut off, it was found that all sounds similar.

This study gives us performers a lot of suggestions.

One is that we have always sought a good sound, and we have tried not to complicate the overtones too much, for clear sound.

The other was to teach that pronunciation is unexpectedly important.

Not only the piano and percussion instruments, but also strings always have clear pronunciation. However, for singing and wind instruments, it was thought only to sharpness extent of music.

## **18. Vowel and consonant**

If we look at tone color in terms of voice, it is easy to notice that changes in overtones correspond to that in vowels, and pronunciations to consonants. This means the relationship between words and music is quite deep.

What is particularly noteworthy is the difference in reverberations in living spaces. Special attention must be paid to the fact that Japanese houses have little resonance.

By living in that environment, Japanese has come to vocalize vowels that contain many overtones rather than enriching the sound. As a result, the inside of the mouth naturally becomes narrower. Then Japanese also learned to produce various expressions with subtle differences in sound.

Not only that, but Japanese even create words with only vowels that are not pronounced clearly. For example, "ao-i-ie (blue house in Japanese)".

Probably we won't understand what is spoken in acoustic space with rich reverberation. There seems to be no other language like this in the world.

Conversely, if the consonants are too clear, the expression becomes harsh and the tone sounds too courteous. Therefore, the pronunciation of consonants became not so clear except for the stage.

## **19. Space inside of body**

The shape of the mouth determines the sound, but to make a deeper resonance, the space inside the body is used.

As we can see from the shape of the body of the strings, it is shaped like a human body. It may be an attempt to bring the sound close to human voice, or that may be the best shape to resonate easily. Both may have been the purpose.

There are many spaces in the body. The space at the forehead, the cheekbones, the mouth, the throat, the lung and the belly such as stomach, intestines, etc. All of them can create rich sound if used well.

It's not without reason that vocalization teachers would explain things like "collect the resonance on your forehead" or "raise your cheekbones".

## 20. Muscle tension

It's muscle tension that can change the spatial state of the body that makes sound. Also, by tightening or loosening the muscles like the leather of the drum, the sound changes and the pitch becomes well settled.

We have learned that method naturally when we speak.

For example, by trying out different pitches of our voice, we can be sure that specific abdominal muscles are tensed. Also, even the tension of the eye muscles enough to change the height of the line of sight causes a change in the sound. Such the slightest changes affect the sound.

Extend your hand forward and bring your fingertips to the height of your mouth. Next, bring it to your nose level, and then to your eye level. If you sing the notes of "Do", "Mi", and "So" in C major at each pitch, you can get a very stable sound. It's a bit strange, but the hand movement that indicated the intervals of Gregorian chant written by the neuma in medieval church music conducting is also like this. (chironomy)

It is something that applies the change in the tension of the muscles of the body also with the movement of the hand.

### §8 Important technique for ensemble

## 21. Overtone

As already explained in [Tone color\\*17](#), it used to be thought that the way in which overtones were included determined the tone color. However, it has been found that noise components and expressions when sound is rising have a greater effect.

However, for the sound in musical performances, the composition of overtones is a problem strictly.

Especially in music, pitch is an important element. When we try to harmonize several notes, if the composition of each overtone is different, naturally they do not harmonize. In other words, a well-ordered sound as harmony is not born.

It is proved by calculation easily. For example, the relationship of perfect fifths that harmonizes best, that is, "Sol" corresponds to the sound of 1.5 times overtone for "Do", so naturally it harmonizes perfectly. In the overtones taken based on the perfectly harmonious "Sol" sound, the 3 to the 12th power becomes "Do (1594323Hz)". The pitch is 152531Hz higher than the original 1441792Hz overtone of "Do". If the two sounds are sounded at the same time, naturally, growl sound is born.

Therefore, when producing "Sol" sound, it is not possible to harmonize perfectly without producing the overtone "Sol" after taking the base "Do" as a standard. Moreover, by doing so, even without searching for the pitch of the perfectly harmonious "Sol", it automatically sounds at the most correct pitch.

On the contrary, even if the pitch is originally harmonical interval, when it is dare not harmonized as a non-harmonic note, the meaning can be clearly expressed by playing a note based on "Sol" sound.

## **22. Rising edge of sound**

Pronunciation of sound, as I said many times, is an important issue both psychologically and physically.

The elements that determine the tone color are the noise and the expression when the sound is rising. However, more than that, the relationship with the previous note determines the note for its meaning. In other words, the relationship is whether disconnected or connected.

Of course, for percussion instruments and pizzicato of strings, everything has to be determined by the only rising edge of sound.

However, singing and wind instruments can be pronounced freely, so it tends to be neglected.

For that purpose, there are vocalization methods and pronunciation techniques.

The first page of a wind instrument instruction book begins with saying to pronounce the sound "Tu". The consonant part of this "T" is tonguing and it is one of the most important techniques.

Amateur players pass by this first page as an easy one. As a result, the pronunciation is not satisfactory no matter how long it takes, and basic problems such as pitch and ensemble cannot be settled. I hope them realize the importance of it soon.

## **23. Attack**

Wind instrument players often refer to tonguing as attack or touch. I don't think any of them are wrong words, but they are easily misunderstood.

When we pronounce clearly, if we try to settle it with force, rather aggressive nuance comes out. That becomes the meaning of the attack.

In reed instruments, the nuance of the word touch is to lick the back of the reed instead of touching the end of it with the tip of the tongue. This makes the pronunciation ambiguous.

Attack means to prepare well and hold breath. Touch means to gently touch the end of the reed and quickly retract the tongue. I want you to understand that these are words that explain so.

In addition, the timing and expression of pronunciation naturally differ depending on the type of instrument, and the deviation in pronunciation may destroy the resonance and harmony of the sound as a whole.

It is an indispensable important technique for ensembles.

**§9 Easy to say, hard to do, just practice.**

## **24. Mutual consciousness**

The best word to describe the ensemble is "take care of each other".

Many things that we usually do without special awareness are important but difficult to explain when we think about it.

This would be one of them. It is something to do casually. If the consciousness is too strong, it will be pretentious and if it is weak, it will seem that we are ignoring it.

It's always there as if it were a matter of course, but a presence to be cared constantly. As in that way, if we are not conscious of the other players, we cannot proceed with the music together.

The ensemble is to express one's intentions implicitly and sometimes clearly, to receive the message of the others firmly and to respond to their actions.

If you can see the heartwarming scene of parents and children or friends taking a walk, it must be a good performance. Easy to say, hard to do, just practice.

## 25. Improvisation

In the art of time like music, the response and reaction of each moment are interested in.

Even if it's written in the script (score), it lacks reality when we do not make it seem as if we're just now noticing it and reacting to it.

For the reason, the setting must be recognized as if it were really in such a situation. And it is necessary to express such reality constantly.

However, true improvisation requires a great deal of experience and practice. And ad-libs of imitating others are only frowned upon. That's why it's important attitude of improvisation, not doing improvisation.

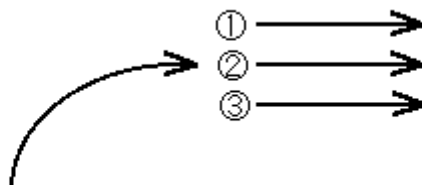
## 26. Natural relationship tone

In music, the expression of sound must be decided improvisational and the flow must be made. Therefore, the tempo and the pitch also change from time to time.

The sound of music is basically always trying to connect organically.

In other words, it takes over from the previous sound and aims for the next sound. If the next sound aimed at is as expected, it is connected, that is, it is in a natural relationship.

Figure 3. Relationship of tone



Naturally, the sound train made by this way is made up of natural harmonic overtones derived from the overtones of the final reaching tone of the sound train.

But would it all sound like that? No, probably not. Because unexpected things happen all the time. It may happen unexpectedly, not necessarily intentionally. There will be times when we shall also make mistakes.

However, the played sound cannot be erased anymore.

That sound is the standard of the moment. We can return to the current flow, and also create a new flow.

It is possible to reflect the will there. Such a relationship would be truly natural.

Predetermined sounds are not correct and natural.

## **§10 The former great conductors were the owners.**

### **27. Conductor**

Conductor is said to be the number one dream job. It can be said that it is so and it is not.

That controls many players at will by the tip of the baton. It can be done like a wizard.

However, in order to do so, conductor has to gain the trust of the players, seek their understanding of the work based on that, correct their mistakes, repeat practice to create an environment in which a free ensemble can be formed and then must acknowledge each other that the players are worthy of making music together.

Practices for those are necessary. It is the very difficult thing.

The former great conductors were the owners, in other words the maestro as employer of the players. If they disobeyed, they would be fired immediately.

I wonder if they still look at the conductor as the person in power of such a situation.

Only amateur orchestras still have such anachronism conductors.

Even Karajan couldn't realize. It is still fresh in our memory that he got the antipathy of the Berliner Philharmoniker in his later years, because he gave in to the desire to be like that.

The attitude of falling into the illusion of having all the power is already unsightly. It underestimates the ability of the players. Then the attitude of building music together cannot show.

In recent years, the number of scholarly conductors has increased remarkably. Such situations are understandable. Who would want to be led and manipulated by a conductor that is just affable and understanding, that is good at waving one's hands, and that misunderstands music as a talent? Rather, it is natural to choose a conductor who has the correct knowledge of music even if one is not very good at handling baton.

But it's not the best choice, is it? Anyway, would you get conductor as one of players that possesses solid performance techniques, does not lose interest in the work, actively pursues the truth and can clearly express one's intention together within a free ensemble?

Why were there so many great conductors in the first half of the 20th century, such as Furtwängler, Toscanini, Klemperer, and Clemens Krauss?

## §11 Just like human body

### 28. Organism

The form of chorus and ensemble, which is a gathering of people, responds as if it itself were a living organism in terms of compatibility with the composer and the work, direction of thought and reaction.

Even if the replacement of orchestra members is rapid, its constitution does not change easily. Because it is music, no matter how bad the ensemble is, there is no reason why there is no mutual relationship.

When a new member joins, there will be a rejection first of all. And then we have to promote fusion like using medicine little by little.

Any organization would be like that, but nothing works as well as a music organization.

When a new conductor stands in front of the orchestra, rejection occurs like an organ transplant. However, once it is taken in, then its internal fellowship become more conscious. Jealousy grows stronger when relationship with other organizations between the conductor begin. It is just like human body.

### 29. Three-legged race

It would be unthinkable in other fields for players to move forward in perfect order.

It is often misunderstood as a militaristic or feudal society. But it is completely wrong. You may not understand it unless you experience it, but it behaves in an ideal democratic way.

It can be said as three-legged race. Rather complicated things are being done. Just by tying the legs together, if the timing is right, there should be no failures. However, it is difficult. If there is a difference in aggressiveness, our legs get tangled soon. Even if we think of something slightly different each other, we also fall over. It looks easy, but it's quite difficult. Ensemble seems to be a very mechanical way, but when we let a machine do it, considerable precision and control are required. Why even elementary students can do so well?

Mutual care is the most important point. It's not about adjusting the timing of each step. As long as overall flow and direction, that is sense of purpose, become clear, we can proceed without any problems. When we have a little doubt or think about something else a bit, the flow stops immediately. It's difficult, but every mind works the same way. It needs human will.

It's very delicate, but successful.

## §12 Points will be deducted if we are not faithful.

### 30. Dynamic sign

When we see *ff* suddenly at the beginning, we play with a really powerful sound. People are amazed at the result of music education. Even if it's not explained anywhere that do your fullest, it's definitely so.

I wonder if great players can read the meaning of *ff*. They try to create deep and rich sounds. On the contrary, they never play at poor volume for *pp*. They start playing rich but quiet music.

They read it as words, not as just signs.

In addition, as mentioned in [Interpretation\\*12](#), the change in free dynamics took place after a quarter of a century had passed since the 19th century. Until then, it could only change stepwise. That is why the organ and the harpsichord have two or three tiers of keyboards. The upper tier is for *p* and the bottom one is for *f*. Then, it must be impossible to change the dynamic freely.

It became possible to actually change the dynamic freely and add intonation after that.

Crescendos and decrescendos are often used to explain the intonation of the melody. However, it is rather acceptable to explain with an accent than those. These are often written into published scores, especially piano and choral pieces. It is often played as if it will be deducted if it is not faithful to those symbols.

It's a shame so much. The editor is sinful.

There are not many dynamic signs written in the vocal parts of Mozart's operas, etc. Therefore, there are still some professionals who ask to add the same signs as the orchestra part, or to request an unwritten crescendo or decrescendo. They have to study more.

### §13 Good example for understanding how to use breath

#### 31. How to play strings

The playing method of strings has been studied for the longest time in the history of instruments. And it is the most completed field.

W. A. Mozart's father, Leopold Mozart, wrote a complete violin instruction book. It is still used today as an important teaching book. In other words, in 1756 when it was written, the playing method had already been perfected.

Moreover, not only the signs attached to the scores were not unified yet, they were not even used very often. At that time, the signs were meant as advice to ornament of the sound or instruction for playing, not as musical expression, etc.

A lot of signs appear after that, but most of them are generated from this playing method of strings.

In that sense, even if we are not string players, we must know the playing method of strings as knowledge.

Pizzicato is easy to understand because strings are plucked with fingers, but we must remember that it leaves a rich aftertaste. Not only that, but string players add vibrato (a technique in which the fingers that hold the strings are shaken back and forth to leave an aftertaste) to make it resonate more. However, in Eastern Europe such as Vienna and the Czech Republic, it is not often. It is probably due to the performance environment with a lot of reverberation.

Signs such as staccato, spiccato, mezzo staccato, accent, etc., can be imagined to move the bow as the shape of the sign.

Unexpectedly, the problem is slur.

Connecting sounds smoothly is exactly the movement of the bow, and it is easy to understand because the movement is visible. For singers and wind instrument players, there is probably no other example that makes them understood well how to use the breath better than this movement of the bow.

The unexpected problem is that there is a limit to the length of the bow, and the direction must be changed any way.

The instrument that makes sounds by both blowing and inhaling is only the Sho of Japan and China.

### **32. Change of bowing**

This bow movement is visually very beautiful. It is one of the charms of the orchestra. At the beginning of Walt Disney's film "Fantasy", the animation of the bow which moves to Bach's "Tocatta and Fugue" is very interesting. This movement seems to be determined by each player, but in most cases it is determined by the composer and written in the score.

That sign is slur.

There is no problem if it matches the phrase of the music. However, when it is attached technically, the phrase of melody is cut off at an unexpected place if we read incorrectly. And it happens often.

In particular, the slur between the dotted note and the next shorter note has this meaning without exception. It tends to see it as a phrase unit of beats. In any case, we should notice that it has become a strange melody.

Such a thing is often seen in the case of composers familiar with strings.

Mozart is one of them. The famous "Eine Kleine Nachtmusik", etc. clearly describes how to use the bow. However, when it was published, posterity wrote additions in it, and on the contrary, it hinders the flow of the original melody.

If we see Mozart's manuscript, we can understand everything.

Dvořák and Tchaikovsky also wrote quite consciously.

Nowadays, the internet has become widespread. So, it is desired that manuscripts become easier to be obtained and to be opened to the public for proper performance.

## **§14 If you come to understand, it will become clear.**

### **33. Motif**

It may be necessary to explain words such as melody and phrase that have been used many times so far.

These words in the smallest unit that I have used so far are usually applied to the word of motif in musical terms. But I use them as slightly different meaning.

One of the terms for this famous motif is "leitmotif". It is used for the compositional writing method in making a large-scale opera work called Music drama made by Wagner.

A specific melody (leitmotif) is applied to each of the characters, objects, events, emotions, etc. that appear in the story. It is used to imply the situation and the relationships that flow behind the story as the story progresses. The writing method progresses the music while interweaving them.

However, Wagner is not the first person that used the method and the style of writing is not special. Mozart and Beethoven also compose music in the same way, but simply they are not explained so. It is called Cycle form.

However, even if the melody is the same, the form changes slightly each time it appears. It's the same as writing. It seems to have a poor vocabulary to use the same words and phrases over



and over again. So, different words and phrases have to be used as much as possible in Japan.

Some of these leitmotifs are short, but mostly it is a melody consists of several measures. What I'm trying to say now is the smallest unit that makes meaning. As the minimum, only one sound, in words, something that does not have a very complicated meaning such as an exclamation. For example, such as "Ah!", "Oh!" or "Yah!" as exception, composed of two or three notes meaningful group. It is equivalent to a phrase of words.

There is also a term called grouping, but I use the word phrasnet (coined word) because there are some points that the way of thinking is slightly different.

However, since it includes cases where variations are added to this sound or it is ornamented, it may be quite long depending on the case.

When we actually talk, we don't think of the syllables or words. However, we know where the words end and talk. The more we try to talk clearly and intelligibly, the more we become conscious of the smallest unit.

Once we understand this smallest unit, the music will also come clearly.

Score example 8. Beethoven's Symphony No. 6 in F Major Op. 68 "Pastoral" beginning [sound 14](#)



Example of playing by correct unit [sound 14a](#)

Example of playing by incorrect unit [sound 14-1](#)

cf. **"Manual of music reading"**

### 34. "A" as standard

As I explained in previous [one-lined a\\*6](#), why "A" is the standard is mysterious.

Various explanations are possible. For example, flute was excavated from among the tomb burial goods of the royal family of ancient China, and its sound is A or D. And the standard of kye chord "hirajoshi" in Japanese temperament is D. The shakuhachi is one of Japanese flutes, the name comes from its length and the length is 1 shaku and 8 sun. Shaku is Japanese unit of length and 1 shaku is about 30 centimeters. So, 1 shaku and 8 sun equivalents to 54cm. Its standard is also D, and the most closely related overtone of D is A.

To play the shakuhachi, the fingers of both hands are used. The length that is easy to hold is just the length that makes D. The western flute was originally based on D as well. It may be because it was an ergonomically suitable length.

As I also mentioned about 1 second in [one-lined a\\*6](#), it is very mysterious that the sound of 1Hz is C. And the following table is obtained by further calculation.

Table 1. Various pitches

|                                       |    |
|---------------------------------------|----|
| 1 second (1") -----                   | C  |
| 1 minute (60") -----                  | C# |
| 1 hour (3600") -----                  | D  |
| 1 day (86400") -----                  | G  |
| 1 week (604800") -----                | A  |
| 1 month (29 days) (2505600") -----    | A  |
| 1 year (365.2564 days) (31558152") -- | D  |

According to the overtone, C# is the 5th overtone of A, G and D are the 3rd overtone of C and its 3rd overtone.

Then, 1 second, 1 hour, 1 day and 1 year are in relation of the overtones of C. The others, 1 minute, 1 week and 1 month are all in relation of the overtones of A.

How to calculate; 1Hz=C, then 1 octave is twice the number of vibrations. Conversely, 2 seconds, 4 seconds, 8 seconds, and 16 seconds are all C. So, I found the sound that matches each number of seconds.

It's a very mysterious relationship.

A forced conclusion would be that the relationship with the sun is C, and the relationship with the moon is A, that is, yin and yang. More forcibly, major and minor.

It seems that music and the working of nature are not unrelated. In Greek times, Pythagoras explained the relationship between the movement of the planets and the temperament. He may have known something of this kind.

By the way, the "string theory" that explains elementary particles is said to be created from the principle that derives the relationship between these overtones and the Pythagorean temperament.

### Pitch name

Score example 9. Pitch name



In the solmization in C major,

Do, Do#, Re, Re#, Mi, Fa, Fa#, Sol, Sol#, La, La#, Si/Ti, Do

German pitch name, respectively

C, Cis, D, Dis, E, F, Fis, G, Gis, A, Ais, H, C



In the pitch name in C major,

Do, Si/Ti, Si/Tib, La, Lab, Sol, Solb, Fa, Mi, Mib, Re, Reb, Do

German pitch name, respectively,

C, H, B, A, As, G, Ges, F, E, Es, D, Des, C

### 35. Circle of fifths

Even in the calculation of the overtone in "["A" as standard](#)"<sup>34</sup>, in a sense, the approximate sound is applied rather sloppily. However, sounds have flexibility, or to put it in simpler terms, affinity with each other.

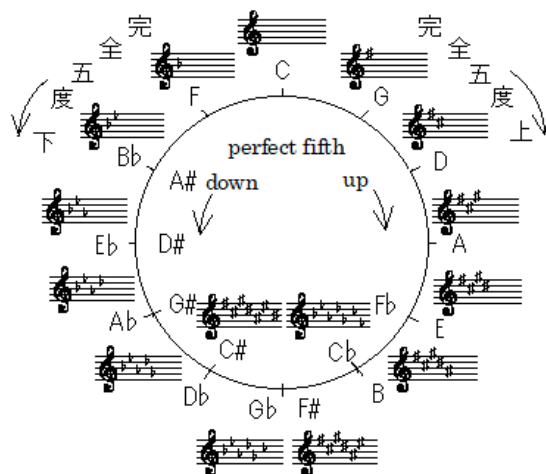
Equal temperament is a temperament that divides one octave into 12 equal parts, with sounds that are somewhat flexible.

When the relationship between the tonic of the scale and the dominant (the 5th tone of the diatonic scale, a harmonic overtone with a frequency three times that of the tonic, and the first tones other than the tonic) is taken one after another about equal temperament, we can draw a circle that looks like a clock face and almost returns to the original at the twelfth point. This is called circle of fifths.

Going clockwise increases the number of sharps by one, and turning counterclockwise increases the number of flats by one. Then, each key with 6 sharps or flats becomes F# or G $\flat$ , and in equal temperament, it becomes the same tone. The writing style is different, but the sound is the same (enharmonic).

The number 12 also looks quite mysterious, but I haven't figured it out yet. I'm sure there will be some kind of relationship with music.

Figure 4. Circle of fifths



### 36. Graph

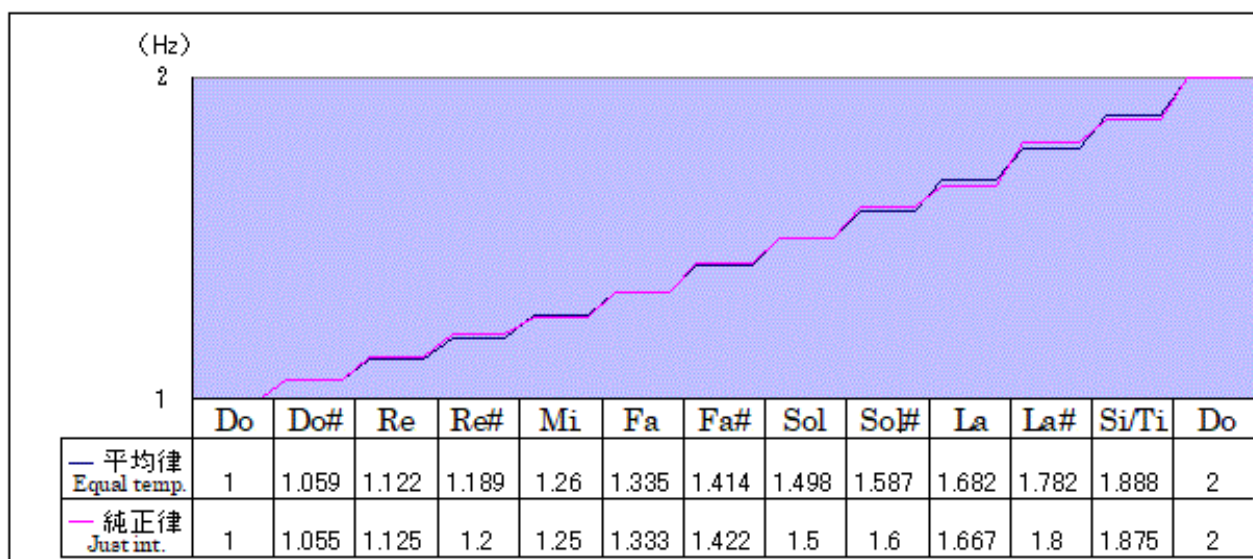
The score itself is a graph, but the recent score of work called contemporary music cannot be seen as anything other than a graph, no matter who looks at it. It is a matter of course.

Now I want to show the real graph here. In other words, it is a graph showing the difference between temperament based on harmonized relationships, that is, just intonation or pure overtone and equal temperament.

#### Graph

##### 1. Just intonation and equal temperament

Figure 5. Just intonation and equal temperament



The red line is just intonation [sound 15](#), the black line is equal temperament [sound 16](#).

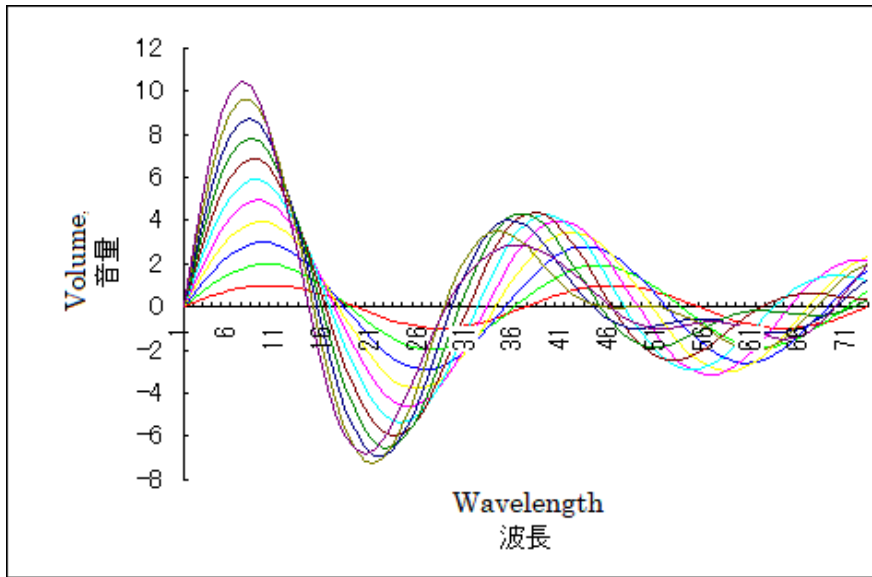
([Sound 17](#) is when both are played at the same time.)

There is a slight difference (higher in just intonation) in Sol, although it is not clearly visible in the graph. It is understood by [sound 17](#) that played at the same time. (Figure 5. Just intonation and equal temperament)

## 2. Stacking only pure overtones

A graph that is added pure overtone components to the curve of the fundamental tone. [sound 18](#)

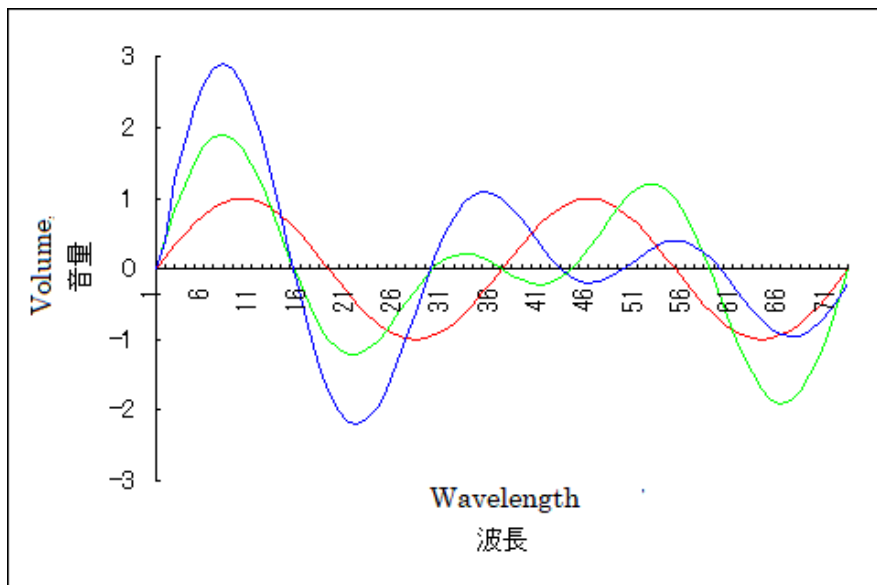
Figure 6. Synergy of only pure overtones



## 3. Triad with only pure overtones

A graph that is added only triad components of pure overtone to the curve of the fundamental tone.

Figure 7. Major triad with only pure overtones

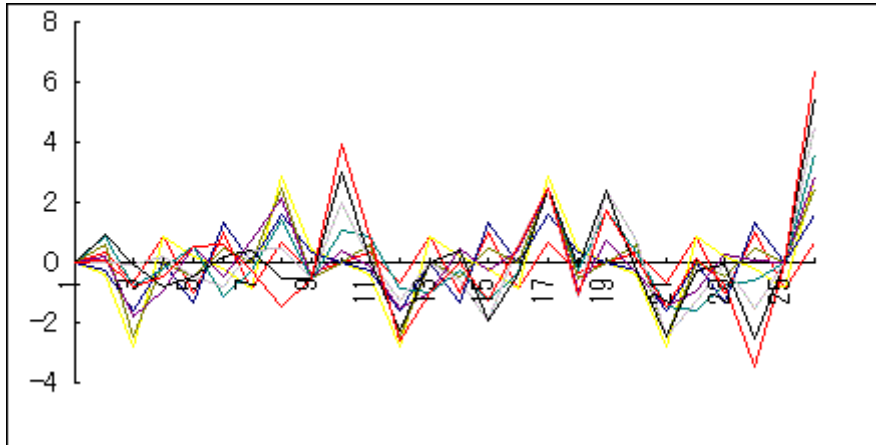


#### 4. Triad with different overtones

Figure 8. Triad with different overtones

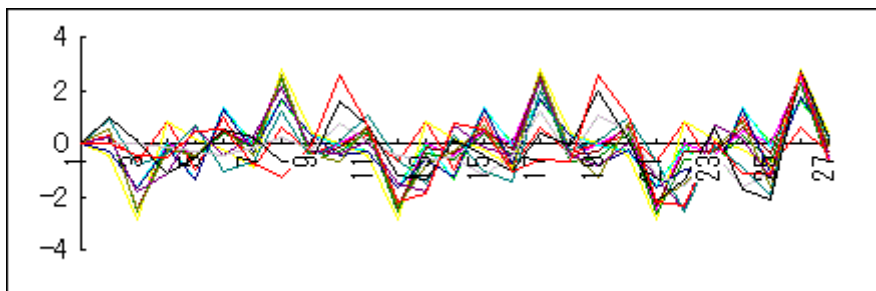
A graph that is added major triad components of just intonation to the curve of the fundamental tone. [sound 20](#)

Major triad of just intonation



A graph that is added components of equal temperament's major triad that deviate from just intonation to the curve of the fundamental tone. [sound 21](#)

Major triad of equal temperament



From the above graphs, it can be seen that the resonance is amplified when pure overtones overlap, and is attenuated when sounds deviating from overtones are mixed.

### §15 Folklore roots

#### 37. Temperament

It is possible to call the temperament a musical scale, but it is not always a normal scale, so the word temperament is used.

Major scale, minor scale and chromatic scale are mainly used today. And whole tone scale is very rare.

Score example 10. Scale

The chromatic scale is made up of only semitones as the smallest unit of the scale. [sound 22](#)



The whole tone scale is made up of only whole tones consist of two semitones. [sound 23](#)



The major scale and the minor scale are scales made up of both semitones and whole tones and are called diatonic scales.

The major scale is a scale in which only the intervals of the 3rd - 4th and the 7th - 8th tones are semitones. [sound 24](#)



The minor scale is a scale in which only the intervals of the 2nd - 3rd and the 5th - 6th are semitones. [sound 25](#)



Then, furthermore, the minor scale is called the natural minor scale as basic form.

Raising the 7th tone by a semitone to strengthen the force leading to the tonic creates harmonic minor scale. [sound 26](#)



In order to eliminate the one whole tone and a half interval between the 6th - 7th tones, when it ascends, the 6th tone is also raised by a semitone to lead to tonic, and on the contrary, when it descends, it returns to the original state. It is called melodic minor scale. [sound 27](#)



It's been a long and confusing explanation, but it's necessary to know the process by which such scales were born.

First of all, the generation of the scale is probably the overtones.

When we sing a song, we will try to connect voices of easy-to-produce pitches. By doing so, the overtones of lower magnifications line up. These are chord sounds, and if played in order those become an arpeggio. The resulting music is called yodeling, a folk song of the Alps region.

In an attempt to make it smoother, sounds that were a little easier to resonate were searched for, resulting in the current major and minor keys, as well as the temperaments of various regions.

And in the Greek era, a theory was born that classified them. It's a line of four tones with three intervals, called a tetrachord (at each end of which is a perfect fourth in musical terms).

Within the three intervals, several combinations are possible where there are semitone locations. Also, by combining the tetrachords, one octave scale (also called mode) is created.

Two of them are the above major and minor scales that we use frequently.



Score example 11-1. Tetrachord



Dorian

[sound 28](#)

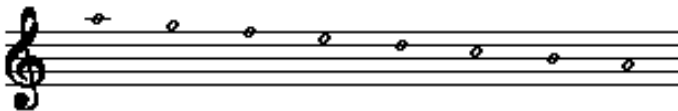
Phrygian

[sound 29](#)

Lydian

[sound 30](#)

Score example 11-2. Various modes



Hypodorian mode [sound 31](#)



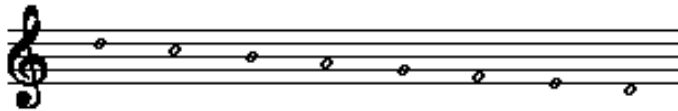
Hypophrygian mode [sound 32](#)



Hypolydian mode [sound 33](#)



Dorian mode [sound 34](#)



Phrygian mode [sound 35](#)

In this way, a number of characteristic musical lines were made. Each bears the name of the region of Dorian, Phrygian and Lydian, and the musical Ethos theory was developed to determine the character of the scale.

Studies on such temperaments were also active in the medieval church, and they are called modal theory.

Some of the names of each musical lines used in the medieval modal theory do not correspond to these Greek names.

By the Baroque era in the 17th century, most of the scales had been standardized as they are now, but even now the old modes can be heard in melodies.

In fact, even now in music education in Western, modal theories are taught for the necessity of counterpoint. It is also taken for granted in the field of popular music, especially jazz.

Westerners may feel folklore roots there.

## §16 Relationship of gravity

### 38. Parentage

If we hear that the relationship between sounds and melodies is a master-servant relationship, it feels feudal. However, I would like to grasp the relationship as parentage as between the earth and the moon, or the sun and the earth, instead of such an ideological meaning.

Figure 9. Parentage



I think it's very similar to the relationship of gravity.

The tone in the melody try to reach some tone in the end. I always feel an attraction like gravity toward that tone.

Its power is proportional to the relationship of the overtones. The strongest is the 3rd overtone, which is called dominant. The feeling of resolution when progressing from that tone to tonic feels like it's completely over. In music, we use the word resolution.

Another is subdominant. Dominant is the 3rd overtone above the perfect fifth of tonic, and this is a tone with such a relationship set to the below side of tonic.

Looking at it on the scale, it's one tone below the dominant. And the feeling of resolution when progressing from that tone to tonic is not so strong, but it gives some kind of feeling of repose.

It is called Amen cadence and is used also as an expression of religious prayer.

### Score example 12. Cadence

Cadence [sound 36](#)

Amen cadence [sound 37](#)

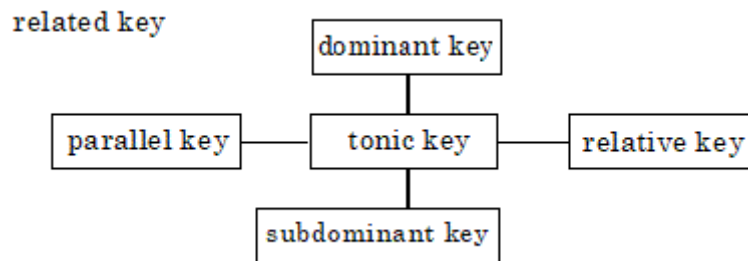


The relationship between tonic and dominant is exactly the same as the relationship between the sun and the earth. Furthermore, when the relationship between the earth and the moon is created, it is called modulation. The original key is tonic key, and when it is a fifth higher, it is

dominant key. And when it is a fifth lower, it is subdominant key. If tonic is the same, it is parallel key. And the relationship between major and minor keys made of the same temperament is relative key.

And all these relationships are called closely related key.

Figure 10. Closely related key



### 39. Tonic and dominant

The relationship is clear, as it is in a sense the master-servant relationship. That dominant has a strong tendency to return to tonic may also mean that it is the most distant tone to which the relationship of tonic reaches.

The force to reach to tonic is also strong in the adjacent sound. In particular, the 7th tone, which rises from the bottom and is next to the peak, is very strong, and is called the leading tone (subtonic), because it leads tonic. The leading tone can be said to be one of a group of dominant tones from the perspective of harmony and overtone relationships.

When the relationship between tonic and dominant is reversed and dominant is newly used as tonic, dominant looks as a perfect fifth below, so it becomes subdominant.

In Italian, both have the meaning of the principal, and dominant means to dominate. I don't know why.

### Relationships between tones in C major

Score example 13. Relationships between notes in C major

From dominant to tonic [sound 38](#) From subdominant to tonic [sound 39](#)

#### 40. Key and atonal music

An attempt was born to remove such as this parentage from music.

In the conventional parentage, the existence of tonic becomes great, and becomes the main one. Such a state is called the key.

Major key with C as tonic is in C major, and minor key is in C minor. Major key with E as tonic is in E major, and minor key is in E minor.

In nature, I think there are only such relationships. The only music that doesn't make us feel the key may be the spacewalk music.

The music that is freed from the relationship of gravity is called atonal music.

A typical example of this musical technique is the 12-tone technique (dodecaphony), invented by Schönberg in 1923.

That is a composing method based on serials. The serial is a sequence of sounds made up of 12 sounds according to the rule that all 12 tones are treated equally, and each tone is produced in the same amount not to play the same note until the other 11 notes are played.

Invented by Schönberg in the 20th century and used by his disciples Webern and Berg, it is a very clever composing technique, but it must be an ideological theory.

Attempts to remove the key did not last long after that.

Score example 14. Schoenberg's Variations for Orchestra Op. 31 theme serial [sound 40](#)



#### 41. Fractal state

It's a fractal state, in simple terms, it's a state in which there is a box within a box, and a box within that box.

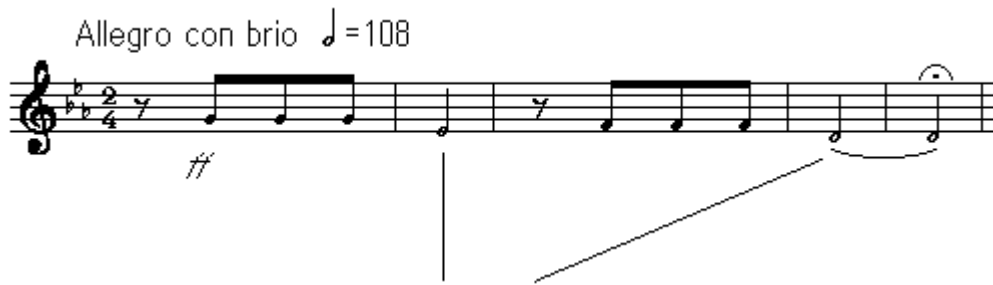
In music, it is a theory developed by a musicologist Heinrich Schenker around the beginning of the 20th century. The theory is that when we analyze the melody, we can hear the melody that comes to the surface and the melody that is the basis of that melody. And also, the melody that is the basis of that melody still exists. There are analyzes of various melodies and works. It is called fundamental line (Urlinie).

This theory is based on the performance theory called ornamentation, that is improvisation in the Baroque era.

In other words, in the reverse order of his analysis, first there is a simple melody, decorative variations are added to each note, and then each melody is decorated more. It is a composing method by adding such repeated ornamentations.

At that time, performers improvised.

Score example 15. Beethoven's Symphony No. 5 Uarinie

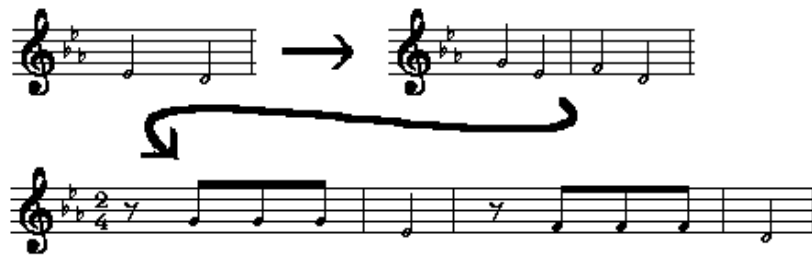


A melody consists of these two notes.



The entire work is made of this motif.

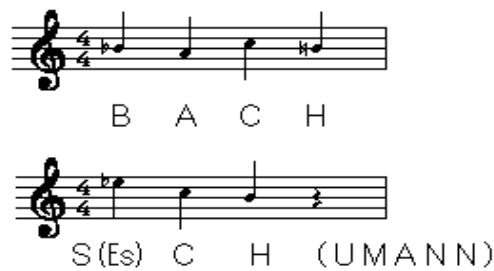
Score example 16. Composing procedure [sound 41](#)



Conversely, as a method of composing, improvisation was common at that time, so it was a performance theory.

Famously, at various places in J. S. Bach's works, he incorporated the tones of his name, "B", "A", "C", and "H". Like Dali's hidden picture, he put his name in so that the listener won't notice.

Score example 17. BACH SCH(UMANN) G.



BACH [sound 42](#)    SCH(UMANN) [sound 43](#)

Not only in those days, but also nowadays composers and artists often do such tricks in secret.

Rather, they enjoy the combination of various sounds without thinking about how to put emotions into it.

I apologize to those who have great respect for composers, but although they are artists, musicians, including composers, are very close to ordinary people.

The works are also built by stacking and combining steadily, not by inspiration of talent. That's why it's called a composer, not a music maker.

## **§17 Fencing is the basis.**

### **42. Form**

"Straighten oneself" is the basis of everything. However, there are many things to say when it comes to what kind of attitude is important in music.

There is a word "set up". It is a stance that can deal with any kind of attack when standing in sports.

It increases tension and concentration. Moreover, the state of muscles of the whole body, especially footwork, is flexible.

The sport that forms the basis of posture in Europe is fencing. In fencing, in order to fend off the opponent's attack, the body is turned to the side and the head is raised so that the target looks as narrow as possible to the opponent.

And "keep your head still" is indeed the first basic posture Westerners often refer to.

It is exactly the same when playing music, and they do not move their heads.

When we play, we tend to feel like we're putting on a lot of expression with moving our bodies, especially our heads. However, the expression does not appear in the sound.

There are cases in which very good players move their bodies, but they move out of necessity to produce sound, not for expression. They look very similar, but they are completely different. If you look carefully, the difference is immediately apparent. That is putting the cart before the horse.

The purpose of music is not to induce the opposite person to make a mistake, but to enjoy the rally comfortably. However, the tension to deal with is the same.

There is another important meaning.

It is to grasp by moment how will happen in the near future.

It became a difficult way of saying. Will you try to remember what we are thinking at speaking? We don't try to speak every single sound or word, but we try to speak a group of phrases. If the content of the speech is clear, the whole content of the speech from the beginning to the end is in one lump in the head.

In such a state, the body responds to deal with everything. As for the music, the body is made ready so that all the sounds of the group can easily resonate.

When I was ready to perform in very good condition, I realized that no matter how long the music I was going to play was like opera, I grasped it as a momentary thing in a handful.

I remember Celibidache, who was called the last great conductor, said, "When the first tone sounded, I knew the last tone." He must have said so about this.

He preached musical phenomenology, but I think he wanted to say that music is set of Idea.

By grasping things in one hand, we must know their essence, and derive individual sounds from that essence. It may "Form is exactly emptiness. Emptiness is exactly form." This is his way of thinking, with a deep knowledge of oriental philosophy. "All is one. One is all." works well in also Western.

## §18 Relief when we return

### 43. Stress

The stress in music that I want to take up here is the various expressions that arise from the stress of sound.

Of course, it's not something we feel only when we're stressed, but it's that comes when that stress is released. It's about the word resolution that I explained in previous [Parentage](#)<sup>38</sup>.

It's like the sense of calm feeling when a fishing rod, eraser, etc. reaches its limit under stress, and returns to its original state when we think it's about to break.

In other words, the feeling at the moment when we shake off the painful reluctance.

The anxiety when we are one step ahead of others, and the relief when they catch up with us.

The frustrating feeling when one can't make up one's mind.

The sense of resistance when we push our way through people.

The surprised feeling when encountering a sudden event.

It is a sound that expresses a sense in various situations.

However, it is necessary to pay attention to the fact that they cannot be born without each other part's consciousness.

### 44. Harmonic and non-harmonic tones

Each tone that expresses the various feelings of stress has its own name.

Suspension is for the painful reluctance. Anticipation is for one step ahead. Auxiliary tone is for not making up mind. Passing tone is for the sense of resistance to push. Appoggiatura is for sudden event.

Score example 18. Nonharmonic tone [sound 44](#)



Suspension, Anticipation, Auxiliary tone, Passing tone, Appoggiatura,

These are collectively called nonharmonic tones.

These create dissonance.

Such sounds are originally not something to be described in particular and felt as [fluctuation](#)<sup>\*55</sup> in a smooth melody movement. At first, the effects were found by actual playing as stepping ahead or delaying a little, may be.

On the other hand, it can be said that it is harmonic tone that always stays calm in a large crowd. It's lukewarm, but it feels good.

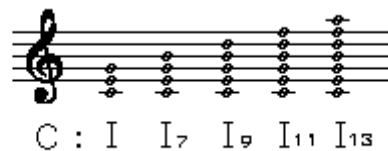
The harmonies are easy to analyze and thus facilitate the explanation. It is also important as a basic knowledge of composition because it is easy to learn. But it is wrong to be bound by that theory. The pops codename can be said to be the same approach, and there are many constraints.

Harmonics prescribes also very complex harmonies in order to analyze everything.

7th is triad on basic tone with 3rd overlaid on top of it. It is often used. It is 9th, 11th and 13th if 3rd is added on in order.

If the basic tone is tonic, then it becomes possible to have every note of the scale of that key.

Score example 19. 13th of I (C) [sound 45](#)



It is almost impossible in reality for ordinary instruments and voices. However, in the case of electronic sounds, they become interesting sounds and exist. The factors are that they are tuned in equal temperament, that each note is perfectly balanced, and most importantly that they do not interfere with each other.

That is, each note sounds on its own. They don't form an ensemble, care about each other nor compromise. The sound can be made only by machine at all.

Recent composers use electronic sounds such as synthesizer, etc., so they write such ones



without hesitation. However, if they are aware of the subtleties of actual playing, they should realize that this is unphysiological request.

#### 45. Resolution

I mentioned above that the resolution in music is stress relief.

The purely organized and clear sound is very beautiful, and when it resonates richly it feels like it cleanses our body and mind.

The beauty of the chorale heard in vaulted churches with high ceilings is deeply moving. In order to make the beauty stand out more, nonharmonic tones are sometimes used to create a cloudy atmosphere. When it clears up, everything is resolved.

cf. [Parentage\\*38](#) [Stress\\*43](#)

### §19 Sound well

#### 46. Reverberation

Sound, reverberation, resonance and echo are all very similar, but there are considerable differences, especially in music.

Sound is the most important matter of deep interest for players, and something they constantly pursue. That's why it's also difficult to explain well and master it.

Musicians express by using the word "sound well". However, there are many cases where it ends up being pushed out with all one's strength, or the sound is suppressed as if it were clogged. On the other hand, when it sounds very well, it is often criticized that it is "not powerful" or "merely beautiful."

If we actually listen to it at the venue, the brute force sound is stimulating and strong, but it doesn't come out thick and rich. The sound that resonates is richer and sounds louder and stronger.

This is because if the overtones are not in order, the phase difference cancels out the vibrations.

For many years, there has been a precept that says loud sound heard nearby is not good. However, these days, there are many rehearsal rooms with no reverberation. There is a tendency to choose instruments and think about how to play based on the criteria that loud sound can be produced easily. Then, after all, it has become that the sound cannot be produced well.

Musical instrument manufacturers should stop pandering to not good players. I want them to trust their ears and keep a manufacturing attitude that does not depend on machines.

The problem is that neither players nor manufacturers know how the instrument is actually sounding.

I once practiced the flute in mountains. I was in a hut on the top of a mountain, all I could see was only mountains. There, I blew the tone toward another mountain beyond.

I remember that echo didn't come back when I sounded with all my might. But when I relaxed and made a well-balanced sound, the echo returned without difficulty.

Until then, my teacher had repeatedly told me to do so. And the scales fell from my eyes then. After all, it is necessary to know it by oneself.

Reverberation and resonance are the same thing. It's good to think that the player's internal problem is the reverberation, and the external problem is the resonance.

Echo is also resonance. As for the resonance, I think everyone knows. Because there are sound reflecting boards called echo board on the sides, behind and above the stage or on the ceiling of the audience seats.

However, though resonance is necessary, echo can even be a hindrance. Direct echo sound is very difficult to merge with other sounds.

I heard that the famous tenor singer Mario del Monaco once had an iron voice reflector made so that he could hear his voice clearly. However, for the overall sound, it usually results in a sense of discomfort on the contrary.

By the way, it seems that acoustic measuring instruments cannot distinguish between resonance and echo.

#### **47. Phenomenon in nature, phase difference**

Let me explain why it doesn't sound well with all ones might.

Explanations of sound and overtone are given before. So, if you don't understand them, I want you to read again **Part 1 Q2: [What is music?](#), Q3-1-3-2-1: [What is overtone\\*21?](#)** and **Part 2 21. [Overtone.](#)**

There is something called an oscilloscope that makes sound visible. When hearing sound, everyone imagines wave (sine wave) displayed on this instrument. Now try to picture that wave in your head.

First, consider the simplest, perfect sine wave.

And can you imagine that if you shift that wave by half a cycle and superimpose it on the original wave, that wave disappears completely?

However, if the overtone waves overlap, the beginning and the end of the wave become sharper and larger, and then the tone shape becomes a well-defined and deep shape, as if emphasizing the original wave. cf. [Figure 8.](#)

Of course, in reality, the sounds proceed on concentric circles, and there is almost no case where they overlap at all. So, this kind of thing doesn't happen completely, but I want you to think that similar effect happens.

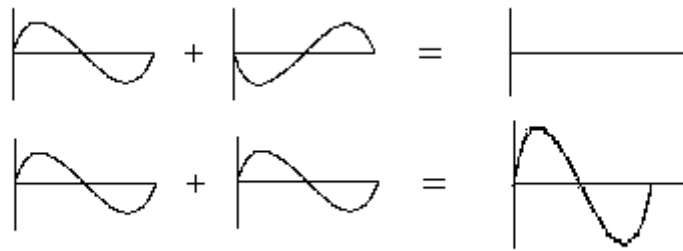
This is because certain overlapping elements are amplified and contradictory elements cancel each other. This can be explained as being caused by the phase difference.

On the other hand, the sound with the phase difference is reduced in the number of places to be amplified, and gradually cancels out each other, resulting in many small sharp peaks.

That there is no large peaks means that there will be no loud sounds. That means it doesn't sound well. Rather, it becomes a jarring hard loud sound like noise.

Sensuously, I think this sound is also loud. cf. [Figure 8.](#)

Figure 11. Phase difference



On the contrary, a sound that contains enough in-phase overtones sounds well-ordered. In addition, the sound produced recomposes harmonic overtones in a space such as a room, and resonates more and more. It sounds gentle and rich. Certainly not exciting.

When soloing, if we give it a slightly different overtone or phase difference so that it doesn't get buried in other sounds, we can rather make it stand out clearly. What the famous tenor singer Monaco did above was for that reason.

However, if everyone did so, they just erase each other, or the music becomes cluttered and lively like elementary school break time.

#### 48. Melody

What would happen if a melody was made up of harmonic overtones where all the notes were in harmony?

As we can see from the explanation of the phase difference, the sound is amplified, but it can be imagined that only tonic stands out.

The sound is very good, but the melody becomes somewhat unclear. Therefore, the sound dare to be distorted.

That is [non-harmonic tone](#)<sup>\*44</sup>.

I remember when I played unaccompanied flute sonata Solo pour une flute traversiere par J. S. Bach BWV.1013 in a large church in Europe. The sound of my own flute remained long. The harmonizing tones became more and more overlapping and loud. When the distorted sound was put out, it was muddy like when the window was fogged up. And when I returned (solved) to the next harmony sound, the cloudiness up until that moment disappeared in an instant like a clear sky.

I realized once again that the music was made in such a place.

Also Bach, who was a player of the pipe organ in a big church, preferred equal (well) temperament, because if the organ had been tuned in just intonation, it would not have been possible to expect such a sense of resolution.

## §20 Intonation of word

### 49. Article

In the case we live in such an acoustic space of the West, it does not fail to affect our usual spoken language.

English The, Italian Il Lo La Le, French Le La Les, German Die Der Den, etc., which are called definite articles, all have distinct consonants.

Indefinite articles, on the other hand, are mostly made up of vowels, such as English a, Italian un uno una, French un une des, German ein, etc.

That is, in a resonant environment, it is begun with a clearly pronounced consonant articles for words that we want to make clear, and it is begun with a vowel article for anything else.

If we make it clear all the time, it becomes noisy. And if we do not make it clear, it is not understood what we are saying.

However, in order to get people's attention, a small sound is made in advance instead of speaking suddenly. Even if we can't hear the first sound for a while, there is no problem with communication.

A little while ago, the communication between the spacecraft and the ground controller was a power-saving system that turned on when they started talking.

Because of that, the beginning of their spoken words was interrupted, but there was no problem with English. However, Japanese was difficult to understand.

Because Japanese doesn't have articles, and it's hard to understand the meaning when we can't hear the first sound when it's spoken suddenly.

Languages such as Russian and Czech do not have articles either.

### 50. Auftact

When making this article part into music, if it starts from the beginning of the measure, it is naturally too strong and make it difficult to understand the original word part. Then put it in front of bar.

This is the meaning of auftact. Auf means to, and tact means beat. That is, it is a German word that means to aim for the beat.

It makes more sense than the explanation as starting with upbeat.

I see, that's why it should be found few in Japanese melodies. It is also rarely found in Russian folk songs or Czech melodies.

There is a close relationship between the intonation of the language and music.

Score example 20. Beethoven Symphony No. 6 in F Major Op. 68 "Pastoral" III beginning

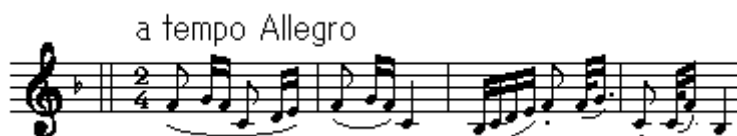
[sound 46](#)



Score example 21. Beethoven Symphony No. 6 in F Major Op. 68 "Pastoral" III

part of the second half, "Dance of the Country People" [sound 47](#)

No auftakt is seen here. Probably for the intonation of the countryside of Vienna, namely Czech region.



Gradually, the earth became smaller, and various languages came to be heard all the time. Then such intonation will gradually disappear and the relationship with music will become poor.

Auftakt appears quite frequently in the music of Russian composers. Considering that the official language at the imperial court was French, it is understandable. Schumann's work sometimes has no auftakt. Around Zwickau, where he was born, the talking is very fast and doesn't have much intonation. It is also understandable.

## §21 Natural swing

### 51. Metronome numbers

In 1816, Mälzel Metronome of Germany invented a device that accurately counts beats and named it after himself, the metronome.

It's still a popular device, but it's about to be replaced by electric one. However, this device is fairly well made.

It is also good that the setting can be done only by the position of the weight. Above all, the movement is natural. It looks just like an inverted swing, and we can see the natural swing. In fact, the invisible part is a swing with a weight attached.

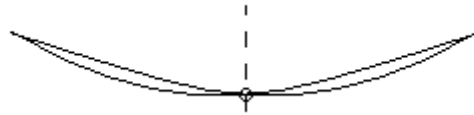
As for the rhythm, such movement is normal in nature, and the even movement is unnatural.

In order to acquire expressions, it is important to have a sense of this kind of uneven meter, and it is necessary to correct it daily.

This instrument can also carve accurately, and the movement itself is quite natural.

The figure of the compound meters of the conducting method is also this.

Figure 12. Swing of the compound meter



## 52. Mixed meters

The original rhythm of music is not something that has to be defined. However, if we want to express the movement of the human body such as dance, we can automatically divide it into several patterns.

When we walk or run, it's nothing but duple.

We move steps like pendulums, without even ergonomics analysis. If we bounce more, it becomes a skip. Step that alternates between skipping and normal walking is mixed meter.

We usually call it odd meter. Stravinsky, Bartók and others incorporated it as folk material into modern music. Then rhythms in Greece and around Caspian Sea became known. However, it became very difficult to read and complicated when it was written as a score. As a result, it is common to imagine modern complex structures, and the rhythm becomes artificial. However, it can be said that it is a completely natural movement.

5 (2+3), 7 (2+2+3) and 8 (2+3+3) meters are mixed with 2 of simple meter and 3 of compound meter (swing). None of the beats repeat at the same move. By repeating "bounding and walking", it is able to hear the momentum with change.

Even a march in duple is a military march of the totalitarian era, if it repeats the beat with no bounding.

The state of relaxed march cannot be expressed.

Table 2. Meter classification (n = natural number)

|                                      | Simple meter<br>(2n)                       | Compound meter<br>(3n) | Mixed meter (2n+3n)                              |
|--------------------------------------|--|------------------------|--|
| Duple<br>(quadruple)<br>meter system | 2, 4                                       | 6, 12                  | 5(2+3, 3+2)                                      |
| Triple meter<br>system               | Actually, it is<br>also compound<br>meter. | 9                      | 7(2+2+3, 2+3+2, 3+2+2)<br>8(2+3+3, 3+2+3, 3+3+2) |

### 53. Swing

After the end of World War II, Japanese people were thrilled with jazz swings in the occupation army camps. It may be a manifestation of their desire to be freed from the oppression of totalitarianism.

Mozart, on the contrary, dared to write no-swing beat as a claim to liberty, fraternity and equality, which were both the slogans of the French Revolution and the doctrines of Freemasonry. He would never have thought that later on, it would turn into an expression that restricted freedom.

However, historically speaking, it was the puritans who shipped this music that originated in Europe to Americas. They were people with new ideas, who also claimed freedom and equality. Unlike Mozart, who fought with music as a weapon in aristocratic society, they didn't have to insist on music. And they must have shipped the old-fashioned natural rhythm as it was.

Nowadays, jazz has become quite formal. Conversely, I feel inconvenient about the chord progression, which is the jazz theory of harmony, the maintenance of the in tempo and the predetermined division of the swing rhythm.

Am I the only one who feels a rigid authoritarian tendency not only in the world of jazz, but also in classical music and orchestra?

I don't know if it's because of commercialism, nationalism or authoritarianism, but there's no doubt that something like that is emerging.

Music is a mirror of society.

## §22 For music, absolute is dangerous.

### 54. Sense of pitch

Correcting the sense of rhythm and tempo with the help of an instrument such as metronome is not difficult. Anyone who plays music should know this.

However, in terms of the sense of pitch, it is extremely difficult.

Because equal temperament is unnatural as mentioned before, and also just intonation is not absolute.

We have no choice but to keep our ears in natural sense.

Occasionally, there has been a revival of education in "absolute pitch".

Absolute pitch is the ability to identify any sounds by the names of notes without instruments. The education is to train it in early childhood.

This kind of education is touted. The reason is nothing but fluttering the parents' vanity by mistaking childhood abilities for talent.

Anyone can do it if they receive training. However, I worry that if any sound is heard as a pitch name, the subtle emotions of the sounds of nature will seem inexplicable, and it will become impossible to feel the music honestly. Though people who haven't had such training can catch music itself when they grow up.

I once heard from a famous pianist who was educated in such a way when he was a child that the difference of the piano tuning in various places was "unbearable."

It is only convenient when compose. However, as I mentioned before, special abilities may feel uncomfortable to ordinary people and they may not be able to imagine the difference from the actual sounds.

For music, absolute is dangerous.

## **55. Fluctuation**

Fluctuation is also called fuzzy theory in a word that was once popular. It is applied to the theoretical circuits of machines that change the rotation of electric fans and washing machines.

After all, it must be unnatural that the same state continues all the time. Natural change is necessary.

However, if we try to make such a change consciously, it becomes unnatural also this time.

In particular, the tempo is often natural for one person, but unnatural for others.

It is a matter how and at what stage we feel that naturalness.

A performer's naturalness can be considered at various stages of technique for playing. And it happens that it differs from the naturalness of music depending on the level of skill.

It has to be on the music anyway.

I want technology to aim for that allows us to play music freely, not its perfection. Then it will be really natural and free music.

In that situation, we can enter the comfortable world of music without thinking about in tempo, equal temperament and rhythm, and we can have a conversation with the composer in one's head.

I hope so, and the music like that has natural fluctuations.

## **§23 How to ornament music**

### **56. Kobushi**

The method to ornament by moving sounds (voices) is something that can be found anywhere in the world.

The way of moving (Kobushi) in Japanese folk song, etc. is a little special. Long sound is moved at the end. It can also be heard in ancient Japanese Gagaku, Noh and Shinto prayers given by the priests of shrines. In a space with few reverberations, it may be possible to express even the reverberations with voice.

It can be said that it is a completely Japanese way to ornament.



## 57. Ornamentation

Most of ornamentations in Western are placed at the beginning of sound.

It is thought that this method of ornamentation originally came from the playing method of the stringed instrument, the lute. The lute is a guitar-like instrument shaped like the Japanese biwa.

It is plucked the strings with our fingers, but it doesn't resonate like a guitar and the sound doesn't last long. Then various ornamentations were considered.

One is to press and release our finger repeatedly. Then we can keep making a sound indefinitely, although a thin tone. This becomes trill or mordent (short trill).

To play one note and immediately hold or shift finger to another position is schlag or appoggiatura (or acciaccatura).

To play one note and move up and down one tone is turn.

These ornamentations were mainly used in France flourishingly, and are called French school.

On the other hand, there is Italian school. It is a slow-moving sound form of French school. And it would be easier to understand this as a variation rather than as an ornamentation.

Improvising the music while ornamenting the sound in this way is the baroque performance method, and is called the ornamentation.

This acoustic implication is the same as the one described in [Harmonic and non-harmonic tones\\*44](#).

However, maybe J. S. Bach wasn't very good at improvising, so he wrote them in advance. Thanks to that, we can still understand how Bach played at that time by looking at the scores.

After that, I think that his sons not only improvised, but also wrote down on the score as nowadays.

Other composers of that era did not leave many scores, so we can only imagine how they performed.

It is said that Handel and Telemann were better than Bach at that era. If we consider that large-scale works such as Handel's "Messiah" include even improvisational parts, it is understandable.

## 58. Old melody

Writing down a melody like that was not often done in the past.

Gregorian chant is one of the music scores that were left behind in the Middle Ages. It was advocated by Pope Gregory around the 7th century to compile chants that had been sung in Catholic churches throughout Europe.

This method of writing is called neumatic notation, and is the basis of the present-day stave notation.

Although these are chants, it is said that not only so-called prayer songs, but also popular songs of the era were included.

The compiled melody was sung also in various places.

Western composers who attended church from an early age grew up listening to such music. So, there is no reason why the influences do not appear in their works.

There are "Dies irae" in Berlioz's Symphony Fantasia, "St. Anthony's Chorale" in Haydn's Divertimento and Brahms' variation of it which has become his masterpiece. They can't escape from the influence.

In addition, it is said that there is a bard's song called troubadour in the music from the old days in Europe. They traveled around and passed down various traditions and events. I wonder if it was in the manners of noble knight.

It is clear from the story of Verdi's opera "Trovatore " that they also acted as a sort of spy.

## §24 Longing for loud sounds

### 59. Orchestration

Based on such material, the composer composes music. And above all, the reason for the prosperity of Western music is probably the birth of large-scale works.

Of course, needless to say, Wagner's four-night music drama is the opera that culminates in "The Ring of the Nibelungen".

Another reason is that works were composed with only instruments which are also used in opera.

Before the Baroque, the form of playing only instrumental music was not particularly uncommon for dance accompaniment. However, the form of performance of music alone was very rare. Especially in the early days, the large-scale ones were all with vocal.

We think that the composers are imagining the sound of the orchestra from the beginning when composing. But they compose on nearby piano first and then work to replace it with orchestra. This is called orchestration.

Most of the instruments used in this orchestra consist of those perfected after the Baroque era.

The most central genus, the violin, was also invented in the 17th century, but during that century the viol genus was still core. It was due to matter of volume that it was superseded by the violin genus.

As for other instruments, the oboe, the bassoon and the horn were the only instruments at first, but soon the flute, the tromba (trumpet), the trombone and the timpani were added, followed by the clarinet and then the basic formation that we see today was completed.

Unexpectedly, at that time, it seems that it was rare to have formation that is faithful to the score as it is now. Looking at Mozart's letter to his father, there are descriptions that he surprised to have two oboes and a viola. It was only in the middle of the 20th century that it became commonplace to play in the same formation as the score. Not 100 years have passed yet.

Looking at the order in which they were added, we can know how the number of instruments that can produce a large volume has increased, and that even though they have existed for a long time they have been completed due to advances in technology such as metal processing. From these points, it is understandable that there are not the lute, the viol family and the recorder that have been used before.

In every era, people longing for loud sounds are the same for both old people and today's rock fans.

## **60. Sonata form**

The reason why such a big instrumental style was created is probably due to the birth of this music composition method.

The sonata was born to describe only instrumental music, as opposed to the cantata, which includes vocal music.

It can be imagined that it will be difficult to construct a work as music without text.

At first, it was played only by the orchestra until the audience had taken their seats before the opera started. It took the form of Sinfonia, and later overture.

After that, the characteristic melodies that appear in the opera are collected and music like a trailer is played.

Much later, works of only overtures without opera came out.

Sonata form can be said to be the form in which the melody is developed logically and composed in an orderly sequence according to the four-part organization of Chinese poetry.

Elements of composition correspond to introduction, development, turn and conclusion. At the beginning, there is a presentation part where characteristic melodies are shown, and then there is a part where those are explained. As for the melody, usually two melodies with different characters are presented. And it is the expansion part that boldly develops using that melody. After that, the first melody is presented once more. It's called recapitulation part.

Sometimes there is an introduction at the beginning and a closing coda at the end.

It must be the syllogism of Hegel's dialectics, which is the logical method of thinking of Western people.

It also makes use of an old song form, a return to the first theme of the da capo aria.

It can be said that it is an excellent form that is very logical and can be developed dramatically.

Symphony is written in sonata form.

First, there is the 1st movement, most firmly constructed in this form. The 2nd and the 3rd movements are created with lyrical parts like songs and pieces such as dance forms. Finally, it is common to bring the 4th movement as the finale which is also made in sonata or rondo form.

Not only symphony, but also chamber music is made in this way. However, in most cases, there are 3 movements and the middle movement is only relaxed and lyrical slow movement.

It is found in the secular sonata form of the early Baroque era.

In the Baroque era, there is also church sonata. It is made up with total 4 movements of 2 parts that begin with a slow section and then continue without a break to a fast section. This form probably became the introduction part seen in later symphony.

## 61. Opera

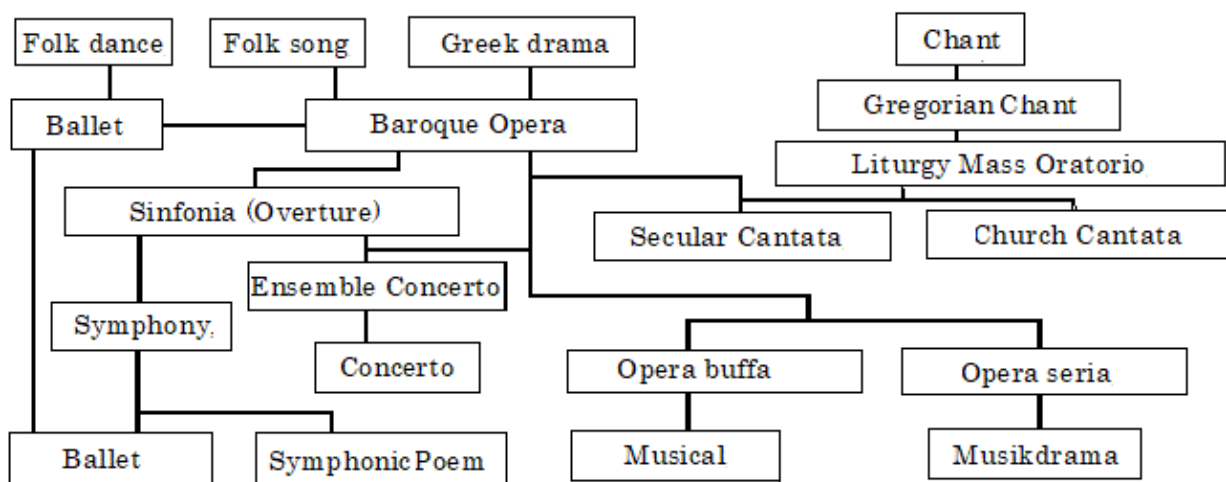
It has its roots in Greek drama and was revived in the Renaissance (Re- + naissance *f.* = again + birth).

The subject matter is Greek mythology at first and continues into the Baroque era. Almost the last is Gluck's "Orfeo and Eurydice".

After that, it is divided into Opera-seria with a serious theme and a light-hearted Opera-buffa. Opera-seria becomes Grand-opera and Wagner's Musikdrama. And Opera-buffa became Operetta and then Musical.

An intermediate form is Singspiel. It is a style in which the song is inserted between the lines like Musical. This style is closely related to the rise of nationalism, and can be said to be part of the movement to present opera in the native language. Therefore, there are many things that incorporate and beliefs in the subject matter. This may be the root of Musical.

Figure 13. Musical form genealogy



This genealogy constitutes the framework of Western music form.

Church music is another major influence, but there is no music that is not influenced by opera. There are not many composers in history that we know of who composed without hearing opera.

People in the past knew opera more than we do now.

**§25 Every music is not only just high-class, it's chaos.**

## 62. Music supremacism

I have written so much that it would be difficult to deny that "music is the thing that represents all human culture".

I hope you have understood that music is an art form that uses human activities as a theme and play.

I find ideas like Eric Satie's "Musique d'ameublement (Furniture Music)" quite interesting. Even if it wasn't so far, the background music during the meal of the aristocrats, which is called Tafel Musik in the Baroque, has been around since that time.

It has existed for 300 years, though the field of ambient music that doesn't make us feel much meaning has recently been established. Bach, Handel, Haydn and Mozart were composing for this purpose.

They haven't always made only high-class music. It may rather be the opposite. Of course, it's good to see the high artistry in the work. However, if we only advocate its value, we cannot say that we understand its true value.

Nowadays, life without music is rare. Wherever we are, we hear music, and we also try to listen to it. In such a situation, there is always a tendency toward values of music only. If we separate ourselves from the fact that it is sound, or if we think about things in the world of music only, the value will become narrow.

Modern music has a surprisingly short history of about 300 years. Novels and science also have the same length of history. Human beings have recognized the value of works that have survived from that history. I think that's where the reason of existence as art lies.

### **63. In real time**

In addition to music, there are many arts such as theatrics, movies, ballets, etc. that progress with the passage in real time. However, there are things that only music can do, or can do effectively.

It is the ability to do several things all at once. We can feel all of them whether it is related or not, with keeping everything in consciousness.

It's a talk around, but it's the same with the environmental music I mentioned above, but we can listen to it while doing something else. Television may be the same, but you can't stay involved in everything while being aware of everything.

It is an art that allows us to be conscious of many things from moment to moment, as if we were looking at them from above.

The moment-by-moment state is a mix of the whole and the individual, and each one exhibits its own individuality.

Novels and movies cannot be shown concurrently. However, music can also create relationships that seem completely unrelated chaotic situations.

### **64. Polyphony**

Music composed in this way has existed since the Middle Ages around the 10th century as polyphony.

It is canon that the same melody chases each other. And then fugue form that made it more complicated was also created. There are many things that are made so complicated that it is even unthinkable now. Besides, the era when such music was made was very long.

In addition to this polyphony, there are other forms such as homophony which emphasizes

harmony in a single melody, and heterophony which is popular now and consisting of solo and accompaniment.

## §26 Older instruments are eloquent.

### 65. Computer music

When we play music on a computer through speakers, if there is enough volume in a good acoustic space to some extent, the sound is in the relationship of natural overtones. And the pitch doesn't matter. However, if we listen to it with a small volume sound or through such as headphones, we actually feel discomfort. So, maybe that's why people who listen to music with earphones or so prefer to listen to sound data of songs or live performances.

It is not difficult to generate natural overtone intonation with the synthesizer, but there is a difficulty in determining the pitch uniformly in advance.

Rhythm is a bigger problem. If computer music perceives it as only the allocating manner of time rather than the expression of sound, it will not be accepted at all.

Certainly, I think that computer music has ample potential to create epoch-making things that have never existed before. However, if it is used only for the purpose to treat in place of the existing instruments easily, their existence is in danger.

But what is even more worrying is that human players are trying to play like computers.

Accurateness is a good thing, but the fluctuation must be conscious. Otherwise, we can't express eloquently about music.

Older instruments may be more eloquent. Computer music for learning from the other bad example is also meaningful.

### 66. Baroque music is prototype.

In the Baroque era, as I explained in [Sonata form\\*60](#), there are also secular sonata and church sonata. Secular sonata is three-movement sonata with a slow movement between rapid movements. Church sonata is a form of music that begins with a slow sonata-form movement, continues non-stop with a fast movement, begins again with a slow movement and then continues to a fast movement.

The composition of pieces called sonata in the Baroque era is usually called trio sonata. Only two parts, one for the cello called the basso continuo (at that time it was Viola da Gamba) and the other for the melody, were composed. In addition to that, with keyboards such as harpsichord, the left hand plays the same melody of the basso continuo, and the right hand improvises. It is trio sonata consisting of three parts in total. This harpsichord must have been in charge of the composer oneself.

This instrument, the harpsichord, was the most popular instrument of its time until it was replaced by the piano in the 19th century.

The shape is similar to that of the piano, but it has a more delicate noblewoman like beauty. However, the string sound function is completely different from that of the piano.

Principle is not to hit the strings like the piano, but instead to pluck them by something like a

nail attached to each string. Therefore, it is not possible to produce a wide variety of tones and volumes. Also, since the strings at that time were made of gut strings that were stretched out from animal intestines, they could not be strung very tightly, so they did not produce a loud sound.

This is solved by stacking two or three strings each time the volume increases. Therefore, the keyboard is made up double or triple for 2-strings or 3-strings. The reason why the organ has several keyboards is not only to change the timbre, but also has the same meaning as the harpsichord.

Some keyboards have black and white keys that are the opposite colors of the current piano. It is said that the more black keys there are the more beautifully the fingers look. However, the reason is that the white keys are made of ivory, which is very expensive.

This harpsichord-centered basso continuo and obbligato part play a trio sonata. And adding the percussion to that, it becomes the composition of Renaissance era. It is the same as jazz quartet.

Percussion instruments are commonly used in the pre-Baroque, Renaissance or medieval secular music.

## §27 Come back at the end

### 67. Written down in score

As a musical approach, the last thing I would come back to is the score.

Even if it is improvised and recorded with the latest recording technology, it is an adornment in life and has a certain value. But it is not possible to enter into the music and have communication.

Through the score we can communicate with the composer, and then pass it on to others and communicate there. So now the composer is there.

With music, it is not like looking at a photograph of the past, but it is possible to meet and talk with the person in person. It's like a time slip.

Of course, it's not only looking at the score. It comes back to life for the first time when it is read and make it sound.

It was possible only because there was an invention to write down music. And it's nothing but because it was written down and started to construct music instead of just transient improvisation like J. S. Bach.

The same is true for acting, but there are language dependence and barrier. However, because music is free in that regard, it can transcend time and region, and can communicate with all people.

It is often said that one way communication is not communication. It is the score for that purpose. If we think of it like performance data, the important meaning is lost.

As I layered the sounds while thinking about various things, if it was correct it would sound better, and if it wasn't it wouldn't resonate. The score is already written not only with the answers, but also so that the answers can be understood according to the time.

## 68. Various indications, etc.

From the middle of the 19th century, composers began to write the indications of speed and expression of music in their own language, and the use of Italian became less common. The composers probably thought that it was very easy to use and convey the meaning. But I think it is wrong.

Subtle expressions exist enough in the music. Do we need more explanation?

Certainly, a completely blank page is like a quiz, and we may misunderstand the true intention of it, and it may take time to reach it. However, it is also easy to cause misunderstandings because the words are written.

If horse was the fastest in the past, now it is airplane. If it is written "like a horse", we feel like a racehorse, and feel its speed and dynamism, but we no longer feel the excitement of seeing something the fastest.

It wasn't a very good example, but if we use words those values and feelings change according to the times, we won't be able to convey the true intention.

For music to be an art that transcends space and time, I want it to be the notation for a common understanding as much as possible.

Unexpectedly, Italian tempo indications are easy to understand.

Table 3. Italian tempo indication

|                 |  |
|-----------------|--|
| <b>Largo</b>    | A tempo like an elephant walking slowly<br>(In a relaxed manner without dividing a beat)   |
| <b>Adagio</b>   | A tempo like an ant walking slowly<br>(Double the meter, constant and stable tempo)  |
| <b>Grave</b>    | As if dragging a heavy object<br>(Without dividing a beat, play each beat)   |
| <b>Lento</b>    | A tempo like the sun is setting slowly<br>(It is okay to divide a beat, but the flow does not stagnate.)   |
| <b>Andante</b>  | Before Mozart's era, it was the horse's walking speed (clip-clop), a little faster for humans. (Double a beat, a little faster) Relax after Mozart's era (Don't divide a beat, relax.) |
| <b>Moderato</b> | Neither fast nor slow<br>Values that favor moderation are understood as a manifestation of dignity and intelligence.   |
| <b>Allegro</b>  | Human running speed  |
| <b>Vivo</b>     | Like running desperately<br>(Don't double a beat.)   |
| <b>Vivace</b>   | Very busy<br>(Never double a beat.)  |
| <b>Presto</b>   | Like swallows flying<br>(It's able to double a beat, smooth moving.)   |



## 69. Playing technique

The milestone of mastering playing techniques is to be able to make music as if we were speaking with our own voices.

We can't ask for more than that at first. If we can go beyond that stage and be able to think with sound, it is possible to make a statement with more expressiveness than our voices.

The voice is our milestone because it's the instrument we've used the longest and practiced the most.

By the way, it can be said that the sounding principle of musical instruments and the voice are exactly the same.

Strings, reeds, lips, anything that vibrates first is vocal cord muscles for voice. A bow, a stick of a percussion instrument, a hammer of the piano, a nail, etc. that give them a stimulus, is breath (air) for voice. It is the instrument itself and the body that create the resonance.

They are exactly the same.

Of course, the way of speaking or quality of the voice can be learned and improved from now on. Along with that, the musical expression also improves.

Just learn and practice.

## §28 Is music by talent?

### 70. Family

Not to mention the example of Bach, but it seems that the idea that talent is important in music and that talent is inherited has taken root. However, the view that it is due to the family environment is becoming more popular.

If it were inherited, there would be many musicians with the surnames of Mozart, Beethoven, and Brahms currently. As we all know, the reality is otherwise.

There are good examples that are not hereditary.

It is true that the reason why many performers are born in families of excellent performers is that their parents are also excellent teachers and trainers.

Since the singer inherits the body, it is the same as being born with a good expensive instrument. And even if parents don't directly teach children how to play music, if they always listen to them nearby and watch them practice, they naturally learn the knowledge and attitude of them about playing music.

That's probably why the family can inherit it under the Japanese Iemoto system. Rather, if it were made public, it might be a splendid system.

However, there are occupations in which the family has produced few fine musicians of the same profession. It's the conductor. Erich and Carlos Kleiber are the only father and son who have become excellent conductors. It's very interesting to think about why.

That's what I've been saying throughout this book, and it's a testament to how music is an accumulation of many things.

In particular, conductor treats the content of music as the job. That requires the accumulation of a lot of knowledge and life experiences that cannot be achieved with talents.

It's just that the person's quality alone can't be done.

## **71. Intention**

This last word feels like something special.

Music is the expression of human and honest emotions, and it is something that can be seen (heard) immediately, such as intentions and malice. However, it is also true that it is easy to be deceived.

The most prominent of these is the genius musician theory. If the person in question really thinks so, no particular bad feelings is conveyed. Because it's not meant to be malicious.

Kids like the music of the battle scenes. This is because they see not the bad image of war, but the act of justice. Of course, they'll like it. Various theories and methodologies are not malicious from the beginning. In the process of conveying the message, important things may be dropped. Because it is told by words. And malice can also enter there. But music removes that, too.

It's difficult to convey malice in music. I may not be able to. Even Mozart, in "The Magic Flute," the only method he used to express the Queen of the Night, the personification of evil, was to have her sing extremely high notes.

The result is that even the villain talks the love for child, then it even caused confusion of good and evil in the whole story.

Music is the expression of the goodwill of people.

We just have to make sure that you don't unintentionally use unpleasant expressions.

Music is something that makes everyone feel comfortable.

## **Thanks**

Thank you for reading to the end.

In this book, I intended to describe basic musical ideas, but it ended up extending to essentials and detailed performance theory.

But that's not enough. There's still a lot to explain.

In order to make up for that, I have also written a "[Manual for reading music](#)", "Manual for performance", "Manual for conducting", "Manual for ensemble", "Manual for choir", "Manual for flute" and "[Great performance](#)", so please refer to them. I would like you to have it.

There are still unreleased items, but we plan to release them one by one.

I hope I could be of some help to improve your music.

I would like to thank Ms. Hiromi Kitagawa for the English translation and proofreading.

Revised April 2023

Noriaki Kitamura

### Notice

Also, you can listen to the author's performance along with this theory on NAXOS.  
<https://ml.naxos.jp/Default.aspx>

For the sound source, see the NKB website. <http://www.nkb-ga.com/>

### Discography

Conduct by Noriaki Kitamura

NKB-301 Schumann: Symphony No. 1 in B-flat Major Op. 38 Spring

Symphony NO. 4 in D Minor Op.120

Orchestra: Moravian Philharmonic Orchestra

NKB-101 Beethoven: Symphony No. 6 F Major Op. 68 pastorale & Overture Egmont

Orchestra: The Slovak Philharmonic Orchestra

NKB-102 Beethoven: Symphony No. 7 A Major Op. 92

Johan Strauss II: Emperor waltz Op. 437

Orchestra: The Slovak Philharmonic Orchestra

NKB-103 Stravinsky: The Firebird suite 1919

Tchaikovsky: Romeo and Juliet & Polonase (Eugen Onegin)

Orchestra: Warsaw Philharmonic Orchestra

NKB-104 Debussy: La Mer & Prélude á l'après-midi d'un fame

Ravel: La Valse Delibes: Mazurka & Valse (Coppélia)

Orchestra: Warsaw Philharmonic Orchestra

NKB-105 Beethoven: Symphony No. 5 c Minor Op. 67

Johan Strauss II: Die Fledermasus Overture Op. 362 & Künstlerleben waltz Op. 316

Orchestra: The Slovak Philharmonic Orchestra

NKB-106 Beethoven: Symphony No. 3 E-flat Major Eroica Op. 55

Johan Strauss II: Frühlingsstimmen waltz Op. 410

Orchestra: The Slovak Philharmonic Orchestra

NKB-107 Beethoven: Symphony No. 9 d Minor Op. 125 & Overture Leonore No. 3

Orchestra & Chorus: The Slovak National Symphony Orchestra & Chorus

Musikverein Grosser-Saal in Wien October 20 2019