

Poetic Form and Musical Form Performed and Written—European and Asian Cultures Compared

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Introduction

Time and Space and the Path of Life

Verbal and musical expression share the fact that they are performed in time. Writing down words or music means to transform time into space to make it independent from the actual performance.

Although time and space as physical phenomena seem to be very different in character, they are linked together in our daily experience. Our eyes are attracted to moving rather than to static objects. A look at and through the space in front of us opens time dimensions: in the present things we see traces of the past. And, more importantly, by observing the present we try to discern future possibilities and risks in order to make the right decisions for our subsequent life. Not without reason a *seer* is a person who is believed to see the future, and our *perspective* means our chance of future development.

Conversely, our time experience is linked to spatial categories: Time may be *long* or *short*, events can occur in the *near* future or may have happened in the *distant* past, time *passes by*, and the future lies *in front* of us, the past *behind*. It is almost impossible to think about time without considering spatial movement.¹ The *path* is an image where many as-

¹ Pathological inability to perceive continuous movement causes a time perception disorder. See Hans Heimann, "Zeitstrukturen in der Psychopathologie," in Heinz Gumin / Heinrich Meier (ed.): *Die Zeit. Dauer und Augenblick*, München / Zürich: Piper, 1989, 59-78, 65.

pects of space and time are intertwined: When we *follow a path*, the spatial road is walked through in a temporal process. The *pathway of doing* something is a temporal sequence of steps to achieve the desired goal. Our future is our path we have to follow, and our life-time is a long path in our mind's eye.

It is not physical but subjective, psychological time that is transformed in spatial images in our mind. Just as each person looks at things from a viewpoint which differs from others, and each person follows his or her own path, the time experienced depends on our standpoint. No two persons are experiencing exactly the same time. If people are living in very different subjective times, as for example a tourist and a business man in a city, they will feel separated even if they stand next to each other. A common visual experience such as, for example, looking at the same landscape, or a common acoustical experience such as listening to the same music, can harmonize inner time and create human closeness.

While in graphical illustrations for scientific purposes time is projected to one of the space dimensions and thus "moves" steadily in a straight line, individual time often seems to develop on winding paths. Subjective time processes often seem to fulfill cycles of repetition, or to proceed by leaps, or to stand still. Nevertheless there is a clear *before* and *after* in time that is not found in space. Time cannot move backwards, and this is perhaps the most fundamental distinction between time and space.²

If we consider our life to be a path, we look at it as an imaginary spatial structure rather than as a time. As a space it has no distinction between before and after: Looking at our future path, we see our ancestors and forerunners from behind, while future people as our descendants and successors are following in our footsteps. Thus on our future path, not people of the future, but people of the past are seen, and our traces of the past are populated by future people. The future, the time *after* the pres-

² We cannot even remember processes backwards. If we try to remember a discussion backwards, we will go back by leaps, and remember the single sentences forwards. See Otto-Joachim Grüsser: "Zeit und Gehirn," in Heinz Gumin / Heinrich Meier (ed.): *Die Zeit. Dauer und Augenblick*, München / Zürich: Piper, 1989, 79-132, 110.

ent, lies *ahead*, and the past, the time *before* the present, lies *behind* us. Each spot on our path is future and past at the same time. The path of life is a *directed space* that bears the *potential* for time processes. Not the path itself, but the process of walking has its before and after.

I. Time Processes and Their Visualization in Speech and Poetry

Script as Path

Since writing down speech or music means to transform temporal art to a spatial mapping, it is rather the *pathway* of speech and music than its time that is shown on the paper. The written work itself has no time: it is present as a whole from the beginning of its existence. If we look at it, the beginning and the end both are present, and if we say of a word that it stands after a line break, this “after” is not a temporal after. When the performer begins to recite a poem, it is not the poem that lies in the future, but the performance.

At first glance, it seems that a written text runs straight in one direction unless it is broken at the end of a line. But when we read a text (which means to run along the path of the text), we do not go straight through every single letter. This is most obvious in scripts like Korean *Hangul*, where horizontal and vertical order is combined:

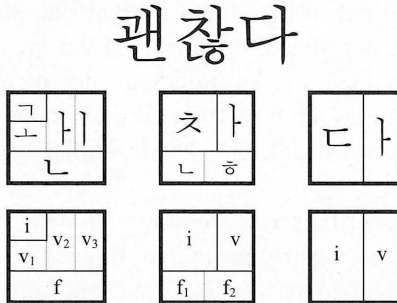


Fig. 1. The word *gwaen-chan[h]-da* (“it’s OK”) in Korean script, its composition. Each syllable is composed of an initial consonant (i), one or more vowels (v, v₁, v₂, v₃), and (optionally) one or two final consonants (f, f₁, f₂). Historically the script was written vertically, but nowadays horizontal writing from left to right is more frequent. The distribution of the letters within a syllable is not affected by the general writing direction.

The sequential order of the letters is from left to right or from top to bottom and can change—depending on the composition of the syllable—several times within one syllable. The principle of order is borrowed from the writing tradition of Chinese characters:

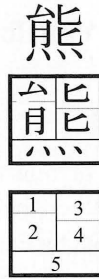


Fig. 2. The Chinese character for *xiong*² (meaning “a bear”), its graphical composition, and the order in which the components are written

In a Chinese character, however, the sequential order is only a writing convention. As a symbol for a word the character is not divisible nor can the parts of the character be identified with parts of the word. A sequential reading as in Korean script is not possible.

When the *Hangul* script was invented, at a time when Chinese characters had already been used in Korea for many centuries, apparently the pronouncing process was mapped to the winding path of the brush in Chinese writing and not to the virtual straight line that leads the writer when the characters are joined together. And the speaking time was not mapped to a continuous line, but to a sequence of events: the path of writing and reading does not flow from the end of one syllable to the beginning of the next, but it goes in *steps* from one whole syllable to the next whole syllable.

Even if the letters of a script are written in one line as in alphabetic writing, it does not necessarily mean that they are read in a steady progress. This is apparent in scripts like Thai (and other members of the Brahmic family of scripts), where it can happen that the vowel of a syllable is written before the initial consonant or consonant group. It seems thus that the initial consonants and the vowels are conceived as a unit where time succession is not the question. Just as *Hangul*, Thai script has to be read in syllable clusters, even if the syllable borders are not ob-

vious for an outside observer as in *Hangul*.

Also in European alphabetic writing the order of the letters is not in any case as clear as it was when it was devised some thousand years ago. It happens that the order of letters is only a convention (as for example “theatre” in British and “theater” in American English), and often two or more letters represent only one sound, as “th” in English. It is thus impossible to read strictly in sequential order, because only if the “h” is read does the reader know that the “t” does not represent a t sound.³ But even where sequential reading is theoretically possible, skilled readers seem not to care much about the order of letters. Most English reading people will read the following text without difficulties:

Ainocdrdg to the sdtuy of an Enigslh Uteisinvry, it’s not iaopmnttrt in wihch oerdr lletres of a wrod are, as lng as the frst and the lsat letetr of a wrod are poitsneoid ctrecolry. The rset can be tllaloy mhesad, hevewor it rniemas raadbele. We don’t raed ecah lteter, but the wrod as a whole.⁴

The reader fixes the word as a whole event; for recognizing the borders—the first and the last letter—and the size—the length of the word—are most important. With respect to the other elements it is enough if the

³ It is a specialty of the modern English language that phonetic reading is almost impossible at all and that there are not many rules of pronunciation that apply without any exception. In this respect English resembles Chinese insofar as words can only be pronounced correctly if they are known and recognized by the reader. Cases like the “th”, however, where the combined sound is not (yet) related to the single written sounds, are found in almost all languages.

⁴ “According to the study of an English University, it’s not important in which order letters of a word are, as long as the first and the last letter of a word are positioned correctly. The rest can be totally mashed, however it remains readable. We don’t read each letter, but the word as a whole.” This much-cited example seems to refer to the Ph.D. Thesis *The Significance of Letter Position in Word Recognition* by Graham Rawlinson, Nottingham University 1976. The source was not verified for this study. See <http://www.mrc-cbu.cam.ac.uk/~mattd/Cmabrigde/index.html>.

most characteristic letters are present, and it does not matter in which position they appear, because they are not read sequentially.

That a text is not a continuum, but rather a succession of events, applies also for units greater than words. The last word of a sentence and the first word of the next sentence do not appear to be consecutive words, but rather integral parts of their respective sentences. Not the words, but the sentences follow each other. Time does not go straight through the sentences, but the sentences are *steps* in the time process of the text. If two sentences or two parts of a sentence have a similar structure we speak of a *parallelism*. If the two structures were part of a straight line, they could not be parallel at all; but in our mind's eye the structures are rather separated lines that follow each other, just as two subsequent lines in poetry. And these lines have a certain shape. If the shape of the two lines is similar, they appear to be parallel.

The Real and the Imaginary Paths of Texts

A parallelism can occur if the sentences are written in two parallel lines, but it can also be observed in our mind if they are written in one line. And, needless to say, not all sentences that are written in parallel lines form a parallelism. The path of a text is thus twofold: the real path on the paper and the imaginary path in the mind of the author or reader. While the former is objectively given, the latter depends on our way of reading. A parallelism, for example, is a parallelism only if it is recognized as a parallelism; and it will be recognized by sensible readers who are interested in verbal expression, but it will be overlooked by quick readers who are focused on pure information. But the real path will help our imagination:

... it
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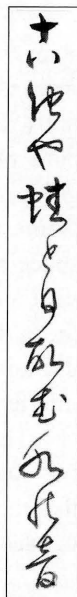
In this case the distribution of the letters on the paper will draw the attention of the reader to the verbal expression, and the parallelism will probably not be overlooked. The graphical distribution of a text thus has a suggestive power that leads us to imagine the text along a *certain path*. If—as in poetry—the path of the text is essential, the graphical appearance is not accidental, but an essential part of the work.

A haiku written in three lines as usual in English translations (below) and the original poem written in one vertical line as usual in the Japanese tradition (right) appear to be different poetic forms.

At the ancient pond
 Just a frog was jumping in
 The sound of water⁵

Written this way:

At the ancient pond just a frog was jumping in the sound of water



⁵ My translation. The translation preserves the 5-7-5-syllable rhythm. Since English syllables are more complex than Japanese ones, the translation gives “too much information” compared to the Japanese original. The Japanese calligraphy was written by Machico Gottschewski.

the English translation would be much closer to the original, but, lacking the feeling for the Japanese five-seven-five-moraic rhythm, which cannot be imitated in English, it would not appear to be a poem at all. To write a haiku in three lines therefore means to give the translation a Western lyrical form because it has lost its Japanese lyrical form; and that makes the poem take another path in our mind. Japanese people do not write a haiku in three columns because it would disturb its delicate time flow. (In the case of the frog haiku, it disturbs also the ambivalent connection of the words: Is the frog diving into the pond or into the water, or does he just “dive in”? Are we listening to the sound of water or to the sound of the frog’s diving in?).

The graphical appearance of Western poems, written in lines and stanzas, was a prerequisite for the development of the great variety of metrical forms that has been characteristic of Western poetry since antiquity. Every scheme represents a concept of time-space, i.e., the specific path or *Weise*⁶ of the time process. And the graphical representation guides the reader to find the right way of reading. Japanese (as well as Chinese and Korean) poets, who did not make use of two-dimensional space concepts to visualize their poems in premodern times, did not invent a new pathway for every new poem, but rather let new words walk the old paths, looking forward to their predecessors. That is why they did not have a great variety of forms, but an extremely rich tradition of intertextuality.

The fact that today’s Japanese poets write modern poems in lines, but continue to write traditional poems in the traditional manner, shows that the path of imagining and the path of writing are in close connection to each other and cannot be separated.

⁶ “Das Wesen des Liedes ist Gesang, nicht Gemälde: seine Vollkommenheit liegt im melodischen Gange der Leidenschaft oder Empfindung, den man mit dem alten treffenden Ausdruck: Weise nennen könnte.” Johann Gottfried Herder, introduction to *Volkslieder. Zweiter Theil* [1779], in J. G. Herder: “*Stimmen der Völker in Liedern*” / *Volkslieder*, Stuttgart: Reclam, 1975, p. 183.

II. Time Processes and Their Visualization in Music

Horizontal and Vertical Scripts

Most things said about imagining and writing time in speech apply also to musical time: Musical time does not develop as a continuum, but rather as a succession of events; groups of smaller events form greater events; and similar melodies in succession seem to be parallel rather than chained up. But there are differences also:

- Music often has repetitions and recapitulations. The way of music is thus not only a winding path, but it happens that the same path is walked through twice or more.
- Musical events do not only occur in succession, but also simultaneously. This is true especially in ensemble pieces, but also a simple song may be analyzed as two simultaneous processes, i.e. the words and the melody.
- Most musical genres have a much stricter time management than speech.

First we will look at simple song notation in order to see how the writing of speech developed to musical notation.

Up to this point we have not spoken about the significance of the overall writing direction, i.e. vertical in traditional Asiatic scripts, and horizontal in Europe. Concerning language this point does not seem to be of great significance.⁷ In modern Japan horizontal and vertical writing

⁷ I made a rather funny observation when I once bought an oblong rectangular magnifying glass in Europe and detected that it worked much worse for vertical than for horizontal script. The reason is that if the glass is held vertically two or three inches above the paper, the two eyes do not look at the same line through the glass. Because the glass is much longer than broad, this problem does not occur if the glass is in line with our eyes, i.e. horizontally held. But it seems to me that there are very few situations in which our physiology interferes with the writing direction.

coexist,⁸ and it is more because of compatibility with Western languages and computer use that the traditional direction of writing seems to be gradually disappearing.⁹ The path of writing is related to the path of walking, as we have seen above, but the natural direction of walking cannot be fixed on paper, because we are neither walking from left to right or vice versa nor downwards or upwards. So the direction has to be projected on one of the directions that can be fixed on the paper, and it does not matter which one is chosen. In fact, there are scripts in the world that are written in any of the four possible directions.

By the way, it seems that the vertical direction is more closely related to the path of walking than the horizontal, because in a picture the path we are walking, seen from our own perspective, would begin at the bottom of the paper. Some choreographic notations, for example the so-called Labanotation, follow that path and are written from bottom to top. Also, Japanese drum tabulatures of the late Edo era for Western style military exercises have to be read this way.

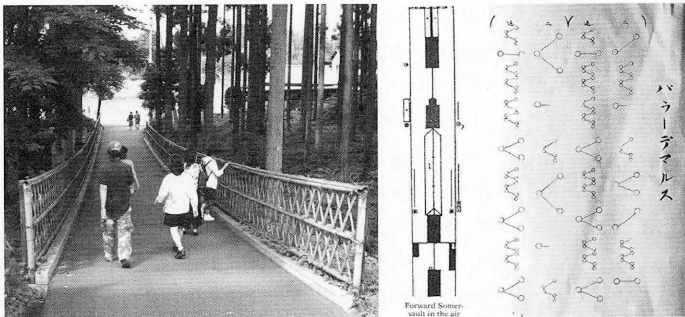


Fig. 3. *Left*: In a picture, our path begins on the bottom of the page. *Middle*: An example of Labanotation, a dance script that is written from bottom to top. (*International Encyclopedia of Dance*, vol. 4, Oxford: Oxford University Press, 1998, p. 689.) *Right*: Japanese drum notation for Western military exercise (the “parade

⁸ It is interesting that some of the earliest examples of writing Japanese from left to right occur together with Western musical notation. (屋名池誠著[Yanaike Makoto]: 『横書き登場』[*Yokogaki tōjō* (The Invention of Horizontal Script)], Tokyo: Iwanami Shinsho, 2003, pp. 73-77).

⁹ For graphic design it is very convenient to have both options, as can be seen, for example, in Japanese newspapers.

march”), written in 1861. While the drummer “marches” over the paper, he reads the left and right strokes. That the notation must be read from bottom to top is evident from the structure of the nine- and five-stroke rolls as well as from the repetition signs at the top of the page. (Cited from 梶田清七著 [KAJITA Seishichi]: 『防長吹奏楽史』 [Bōchō suisōgaku shi], Yamaguchi: published by the author, 1989, after p. 68.)

Although it is clear that our walking direction through the picture in Figure 3 would be from bottom to top, a script that is orientated along that path does not necessarily have to go in the same direction. If we take the writing paper and walk on our path, the path is moving from top to bottom under our feet. So, if we write as the path is moving, the direction will be from top to bottom. It depends on our perspective which direction seems more “natural.” Japanese people seem to prefer to write from front to back.¹⁰ On vehicles, for example, names are written from front to back, regardless of the normal horizontal writing direction, which is from left to right.

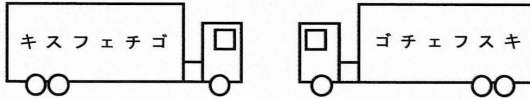


Fig. 4. If I were the owner of a Japanese moving company, my name (ゴチェフスキ in katakana) would be written from front to back on my trucks, i.e. from right to left on the one side and from left to right on the other side. So the characters are written in the right order when the vehicle passes by.

¹⁰ There is an interesting statement in Bernhardus Varenius' *Descriptio Regni Japoniae* of 1649, chapter 25 (http://la.wikisource.org/wiki/Descriptio_Regni_Japoniae_25): “De scribendi modo Xaverius ita loquitur p. 149. Iapones in scribendi ratione ab aliis differunt plurimum. Nam á summo orsi directo ad ima descendunt. Quaerenti mihi ex Paulo Iapone, Cur nostro more non scriberent? Quin vos, inquit ille, potius more nostro? Etenim ut hominis caput summum est, pedes imi: sic par est, homines cum scribunt, á summo deorsum directò ferri.” (*Concerning the manner of writing, [Francis] Xavier says the following on p. 149. The Japanese differ very much from other people in their method of writing. They begin from the top and go down to the bottom. When I asked Paul the Japanese why they did not write in the same manner as we do, he asked me back, why don't you [write] the same as we? After all, the head is the highest part of the human*

Writing from front to back on a path like in Figure 3 would mean to write from top to bottom, which is the normal writing direction in East Asia.

Coming back to musical notation, it is obvious that it can also be written in any direction. It seems that musical notation developed after language script had developed, and so it is quite natural that the writing direction of musical notation is the same as in language script: from left to right in Europe and from top to bottom in East Asia.

There is, however, a great difference between speech and music. Music has its own spatial dimensions. While time moves forward, melodies are moving up and down. If time is mapped to the horizontal axis as in Western musical notation, pitch can go up and down at the vertical axis, and a two-dimensional schema as in Western staff notation emerges. If, on the contrary, time is mapped to the vertical axis as in Japanese traditional writing, the melody cannot move along the same axis up and down, and a two-dimensional system is not possible.

It may be argued that it is not necessary for pitch to be matched to the vertical axis, and it would be, for example, possible to call higher pitches “right” and lower pitches “left,” as it is on the keyboard of a piano, and so a vertical time axis would not prevent a two-dimensional musical script. In fact, there is no universal necessity to imagine melodic movements as “up” and “down,” and there are cultures that do not do so. But this is a very theoretical argument. We are speaking about the Western and Chinese cultural spheres, and both have been using for high pitches words such as “high” or “upper tones” and for low pitches “low” or “lower tones” for many centuries. This is obvious, for example, in the names and symbols of speech tones:

In China, one of the four speech tones of the classical language is called 上聲, i.e. “upper voice,” since one thousand five hundred years ago, and it means the high tone. The high pitch accent in ancient Greek was called *ὀξύς* (“sharp”, or “acutus” in Latin) rather than “high,” but the accent symbol for it (´), which was also invented during late antiquity, clearly shows the direction upwards, and the symbol for the lower

[body], and the feet are the lowest; in the same way, it is reasonable if men, when writing, are led from the highest point downwards.)

tone (´) downwards.¹¹

In both cultural spheres song notation probably developed out of a refinement of speech tone symbols.¹² Notational symbols for melodic pitch first emerged as accidental marks referring to single syllables. Just as Greek accents, the so-called “neume” notation for medieval chant was written above the line in which the words were written. In Japanese *shōmyō* (Buddhist chant) and in *gagaku* (court music), so-called *hakase*, i.e. Japanese neumes, were written around the Chinese characters, where traditionally marks for the speech tone had been placed.¹³ This notation developed at least since the middle Heian era. Buddhist *hakase* systems link the origin and the angle of the lines with definite pitches, and in some of the systems the *hakase* lines use the space all around the character, even if it interferes with the vertical writing direction of the script. In *gagaku*, on the other hand, the *hakase* lines show only the rough shape of the melody and are placed left of the character.

Although in Western neumes as well as in Japanese *hakase* there are many variations, as a tendency both notational systems mark ascending melodies or higher tones by ascending lines and descending melodies or

¹¹ The ancient Greek scale degree names, however, seem to contradict this idea, because the lowest tone of the lower tetrachord was called *hypate* (top); but this name is due to the fact that the uppermost string of the lyre was that with the lowest tone.

¹² For a more detailed comparison of Western and Japanese chant notation see Hermann Gottschewski: “Musikalische Schriftsysteme und die Bedeutung ihrer ‘Perspektive’ für die Musikkultur. Ein Vergleich europäischer und japanischer Quellen,” in: *Schrift. Kulturtechnik zwischen Auge, Hand und Maschine*, ed. by Gernot Grube, Werner Kogge, and Sibylle Krämer, München: Wilhelm Fink Verlag, 2005, pp. 253-278.

¹³ See 新井弘順「声明の記譜法の変遷—博士図を中心に—」[Arai Kōjun: *Shōmyō no kifuhō no henshen - hakasezu o chūshin ni* = The historical development of musical notation for *shōmyō* (Japanese Buddhist chant): centering on *hakase* graphs], in: 『日本音楽史研究 上野学園日本音楽資料室研究年報』第1号 [*Nihon ongakushi kenkyū. Studies in the Historiography of Japanese Music. Bulletin of the Research Archives for Japanese Music of Ueno Gakuen University*], No. 1, (1995), 3-32 and vii-xxxix, 5 and x.

lower tones by descending lines. This coincidence causes a great difference: Since the words in Western notation are written horizontally, the neume of one syllable “looks” to the next neume, and in a later stage of development the neumes combine to a coherent line, so that the melody has a notational representation independent from the words.

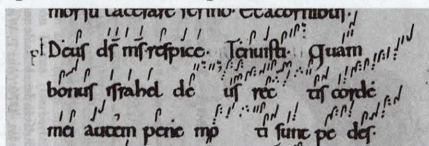


Fig. 5. Neumes from the Winchester Troper, 11th century. Oxford, Bodleian Library, Ms. 775, fol. 17r. Reproduced from *MGG*, 1. ed., Art. “Notation,” Tafel 91, Abb. 1 (vol. 9). While the form of the single neumes show the melodic movement, subsequent neumes are not necessarily in the correct relation of pitch. Every neume or neume group starts from the vocal of a syllable. Later neume notations were written on lines to show the exact pitch, and from there our modern staff notation developed.

Japanese *hakase*, on the contrary, are written away from the writing column, because the overall writing direction is vertical, and so they do not “look” to the next *hakase*.

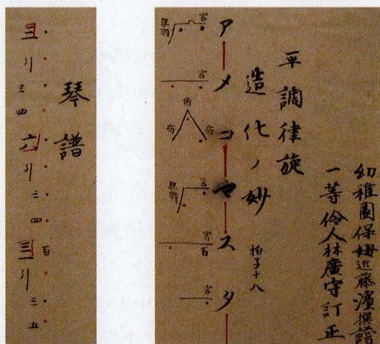


Fig. 6. *Right picture*: Beginning of a song composed in the early Meiji era and written in a modern *hakase* notation used in *gagaku*. The first two columns (from right) contain the composer’s and a revisor’s name, the next two columns the mode (key) and title of the song. In the fifth column the first six syllables of the song are shown. Some of them are connected by vertical red lines, which means that they are sung in one breath. Left of the syllables the *hakase* show the approximate movement of the melody. The exact pitches are written as scale-degree names above the *hakase* lines, and the rhythm is indicated by beat symbols under the lines. *Left picture*: Beginning of the notation for the *wagon* (six-stringed *koto*) accompaniment, see below. The song is part of the *Hoiku shōka* collection, which was composed mainly by court musicians for kindergarten and school music edu-

cation between 1877 and 1882. This song, however, was composed by Kondō Hama, a kindergarten pedagogue of that time, and is perhaps the first composition of a female composer in modern Japan.

Similar to the letters in *Hangul* syllables (Figure 1), the melody of each syllable goes its own path, and the reader has to go in steps from syllable to syllable. The same is the case with early medieval neume notation, but, as already said, later neumes combine to a melodic continuum, so that the tones and tone groups themselves become the events that are underlaid with syllables. Japanese *hakase* could not undergo this development, since the writing direction of the words was vertical, and thus the single *hakase* lines could not be connected to one melodic shape.

The historical consequence of the different writing directions thus is that the reader of Western notation proceeds from tone (group) to tone (group), while the reader of traditional Japanese song notation proceeds from syllable to syllable. The Western and the Japanese reader will not only go along their paths in different directions, but they will go along different kinds of paths when they imagine a song.¹⁴ A Western song is mainly “melody with words,” but a Japanese song is “words with melody.”

Event-based and Time-based Notation

A great difference between modern¹⁵ Western notation and language script is that verbal script is event-based (as shown above) and musical notation is time-based. Tones, chords, tone groups, and phrases are musical events, but they do not constitute the framework of notation, as syllables and words do in language script. Rather the bar lines form the framework, and the events are filled in the space between the bar lines. Bar lines do not indicate physical time—the physical length of a bar depends on meter and tempo, which both can change within a piece—but it indicates the structured subjective time that is (or at least should be)

¹⁴ This has also consequences for compositional techniques. See Gottschewski, “Musikalische Schriftsysteme,” pp. 274–76.

¹⁵ In this paper “modern” concerning Western music culture means “belonging to the mainstream of classical music since the eighteenth century.”

common to musicians who are playing together, even if their respective parts consist of different events. In a modern score the time of a musical event is the onset: events that begin at the same time are written one below the other, regardless of their duration.



Fig. 7. Section from the printed score of a trio Sonata by Arcangelo Corelli, ed. by J. Chr. Pepusch, London 1732 (cited from Claus Bockmaier / Siegfried Mauser: *Die Sonate: Formen instrumentaler Ensemblesmusik, Handbuch der musikalischen Gattungen vol. 5*, Laaber: Laaber-Verlag, 2005, p. 71). The time of the three parts is regulated by the bar lines that are coordinated in all three voices. The notation is similar to a modern score, but the distribution of the musical events within a bar is—as occasionally in scores until around 1800—not yet fully onset based: Longer notes are written in the midst of the interval of their duration rather than at the beginning. In modern scores only the whole rests are written in the midst of the bars, as a relic from this older tradition.

Until about 1600, however, Western notation was event-based. In polyphonic music the duration of every event was precisely defined (in fact a tricky problem that was solved in several ways during the centuries), so that the voices, that were notated separately, could be synchronized. There was a common measure¹⁶ to synchronize the tempi, but the meter was not necessarily the same in all voices, and thus the time framework could be different for each singer.

Choosing a time-based notation thus means to have a common path through the space of time. The concert master or conductor shows by

¹⁶ The notion of “measured music” (*musica mensurabilis*) was introduced in a music theoretical work of the thirteenth century and is linked with the name of Johannes de Garlandia, although the authorship is unclear.

body movements how the path goes, and the other musicians have to go with him. In medieval music, on the contrary, each musician followed his or her path, and it was a matter of planning (by the composer) and communication (by the players) to achieve harmony between these different paths.

Japanese traditional song notation remained event-based, and the events that lead the singer are syllables rather than tones. Instrumental notation, on the other hand, seems to be time-based, as the left picture in Figure 6 shows. Since instrumental music has no words, the notation of the *wagon* is led by a pattern of beats that is written by black and red dots and the symbol 𠄎 for the “big beat” at the end of the pattern. These symbols are written at regular intervals in one column, and left of it the playing instructions (a tablature notation that indicates the strings and playing techniques rather than the tones) are placed. Compared to the song notation in the right picture of Figure 6 it is clear that the beats have overtaken the position of the words. The same beat symbols are used in the song notation to indicate the rhythm, but there they are only accidental and do not form the framework for the notation.

In fact, the Japanese beat-based notation is something between an event-based notation and a time-based notation. Other than Western bar notation, Japanese beat notation uses mainly real beats that are hit by percussion instruments. These beats are musical events and not only spots in an abstract time flow. Because Japanese musicians are oriented at real musical events, they do not need a conductor.

Synchronization

As stated above, modern Western music is based on the idea that there is one path of time along which all of the musicians go together. The older concept of polyphony rather gives every performer his or her own time, but a common measure guarantees synchronization.

Japanese musicians synchronize their playing by real musical events as the strokes of percussion instruments. If one waits for the acoustic signal of the other, perfect simultaneousness is impossible, but as in older concepts of Western polyphony it seems that in most genres of Japanese ensemble music marching in step is not intended. Different instruments have different time concepts. A simple example is *Hoiku shōka*,

the genre to which the song in Figure 6 belongs. In this music, a kind of simplified *gagaku*, three time concepts come together: the percussion instrument (*shakubyōshi*, wooden clappers) is hit in a very simple way that only depends on the meter and thus is not notated at all. The *wagon* part has a cyclic time concept: There is one pattern that comprises a certain number of *shakubyōshi* beats, and it is repeated throughout the piece without change. It is individually composed for each song and thus gives the piece a characteristic shape. In the notation only one pattern is written, and the number of repetitions is indicated. The song itself has a straight time concept: Normally there are no repetitions in the melody, and it never happens that any words or sentences of the text are repeated. Singing the melody thus is like reading a text, and the musical form is given by the form of the poem. Neither the singer nor the *wagon* player know in advance which word comes together with which part of the accompaniment.

In *Hoiku shōka* the beat ensures that all voices come together, and if nobody makes a mistake all voices will inevitably end at the same time. In other genres of Japanese traditional music the concepts of coordination are rather complicated and not determined in every detail; this is especially the case in pieces that have no beat at all, as for example the preludes (*netori*) in *gagaku*. In these pieces, each instrument has its own event-based notation, but the length of the events is not fixed, and the coordination happens rather through experience and tradition than through rules. Figure 8 shows the real time flow of a *netori* by the imperial court orchestra in two recordings that were made almost one century apart.¹⁷ Although some small differences are seen—some may be due to the lack of audibility, especially in the 1903 recording¹⁸—essentially the same notes are played in both recordings. Concerning the synchroniza-

¹⁷ The players of the older recording are 雅楽師長東儀季熙ほか雅楽師十一名 [court music director Tōgi Suenaga et al., eleven members of the imperial court orchestra]: 『全集日本吹き込み事始. 1903 First Japanese Recordings by Frederick Gaisberg』, vol. 1 (TOCF-59061). For the newer one: 宮内庁楽部 音楽監修: 芝 孝祐、多忠磨 [the imperial court orchestra directed by Shiba Takasuke and Ōno Tadamaro], recorded June 15/16, 1989: 『日本の伝統音楽 雅楽』 [Nihon no dentō on-gaku: Gagaku] (KICH 2001).

tion, however, great differences can be seen: In the 1903 recording, the *biwa* and *koto* begin soon after the *hichiriki* has finished, but in the 1989 they begin much later. Also the entry of the *hichiriki* is later in the 1989 recording, relatively to the tones of the *shō*. Altogether the 1903 recording is much shorter than the 1989 one.

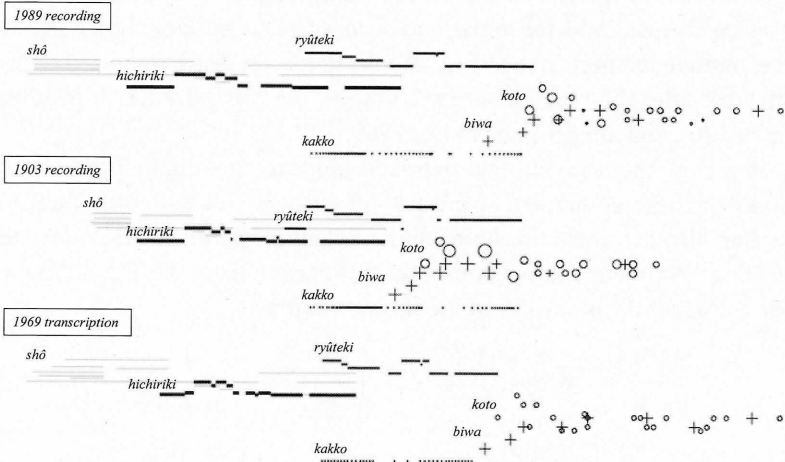


Fig. 8. A “piano-roll notation” of two recordings of *banshikichō-netori* by court musicians. The horizontal axis represents real (physical) time. The size of the *biwa* and *koto* symbols refers to their volume. Auditive analysis (using harddisk recording) by the author, Sept. 21, 2006. Some tones that were presumably played are missing, because they were not audible. For comparison, a translation of Shiba’s transcription (Fig. 9) in piano-roll notation is added.

It can be argued that the musicians shortened the piece deliberately in 1903, because the recording time was limited. Even if this possibility cannot be denied, however, the coordination would not have changed if it were essential to the music. So it is more interesting to see which aspects of coordination did *not* change.

¹⁸ Especially some of the *koto* notes in the 1903 recording were not audible, and for some of the plugged tones it was not clear whether the *biwa* or *koto* played them. It is also almost certain that an additional tone in the first *shō* chord was played, but for my ears it was not audible in both recordings.

Excepting the entry of the *hichiriki*, the coordination between the three wind instruments (*shō*, *hichiriki*, *ryūteki*) did not much change. Especially the part where all three instruments come together is very similar in both recordings. It seems also that the *kakko* is intentionally coordinated with the *ryūteki*: It begins shortly after the high tone in the *ryūteki* begins (although it is the first note in the 1989 recording, while it begins an octave lower in the 1903 recording), and it ends shortly before the *ryūteki* ends. And the *biwa* and *koto* seem to be essentially in the same mutual relation, but not in detail: The *koto*, for example, begins somewhat after the *biwa* in both recordings, but it is after the third *biwa* note in 1903 and after the second in 1989.

It goes without saying that two recordings are not enough to be sure that all of these coincidences are not by chance. But it is important to note that also the transcription of Shiba Sukehiro, published in 1969 and reflecting his practice in the court music orchestra from the Taishō to the Shōwa era, confirms several of these observations:

盤 渉 調 音 取

(特殊記載法による)

Fig. 9. Transcription of the *banshikichō-netori* by the court musician Shiba Sukehiro, in *Gosenfu ni yoru gagaku sōfu* (see note 19), p. 160. See also the lowest system in Figure 8.

The notes of Shiba's transcription are almost the same as in the 1989 recording. But there are also differences: The entries of the *hichiriki*, *ryūteki*, and *biwa* are much later than in both recordings. And the coordina-

tion between *biwa* and *koto* is very different between the 1989 recording and Shiba's transcription, although in both versions exactly the same tones are played. It seems, on the other hand, that the endings are well coordinated in all three versions: The *shō* and *hichiriki* are ending together, the *ryūteki* ends shortly after the *kakko*, and the last tone of the *biwa* comes between the last notes of the *koto*.

The graphical appearance of this transcription is in particular interesting, because Shiba invented it in order to reflect the specific conditions of *netori* performance: "The *netori* of each mode (or key) is something looking like an ensemble piece, in which the first players of *shō*, *hichiriki*, *ryūteki*, *biwa*, and *sō* [*koto*] come in to play the phrases or melodies belonging to the respective mode with the modifications of tempo and dynamics that are handed down from old times, and also the *kakko* accompanies them with a suitable rhythmical pattern. So I have used a special notation that is different in character from the score of normal *kangen* pieces to show roughly how it is."¹⁹

If we remember that the graphical appearance of a notation reflects something of the internal path the music goes along in our mind, this deliberately invented form of notation shows us very clearly that the *shō* and *hichiriki*, the *ryūteki* and *kakko*, and the *koto* and *biwa* form three pairs that play in close relationship, while the connection to the other pairs is rather loose. The instrumental players thus do not play according an abstract time, nor do they play according an overall image of the whole piece, but they are reacting mainly to the musical events of their respective partner, almost ignoring the other events.

In this case the graphical (i.e. spatial) appearance of the score can tell us much about the (temporal) communication processes in performance.

¹⁹「各調の「音取」は、その初め笙、箏、篳篥、龍笛、琵琶、箏の各主奏者が、各調定め
の楽句または楽節を古来伝承の緩急抑揚によって、試み奏する作法に、鞆鼓も長短
適宜の一手を掻き添えてあたかも合奏の如き体裁と成ったものである。故に一般管
絃曲の総譜とはその趣を異にした記載法を用いてその大凡を示した。」芝祐泰編著『五
線譜による雅楽総譜 第二 管絃曲早楽篇』Shiba Sukehiro, *Gosenfu ni yoru
gagaku sōfu. daini kangenkyoku hayagakuhen* (Gagaku score. Vol. 2: Orchestra
score, Hayagaku.) Tokyo: Kawai Gakufu, 1969, p. 88.

It is important to notice, however, that this structure of performance does not rely on written tradition. The *gagaku* scores of *netori* only give the succession of events for each instrument separately, and nothing is written about their coordination. Shiba's notation, which is of extraordinary interest for music research, is only a descriptive, not a prescriptive score, and it was never used by court musicians. Although notation does tell us a lot about the music that is notated, there are real structures in the music that are not notated at all. In Japanese music culture, where oral tradition is more highly estimated than written documentation, this is not a surprising discovery; but also in Western music important structural properties of the music are not written at all.²⁰

Notation and performance are things in their own right, notation in space and performance in time. Performance, of course, is the main thing, because music can exist without any notation, but it cannot exist without any performance. Nevertheless notation is essential: Notation leads us to imagine music in a certain way, and the way of imagination leads to new musical works. Sometimes—as it was the case with vertical and horizontal writing—a small difference in notation can cause a great difference in music history.

*I thank John Boccellari and Tom Gally, who helped me with the English version of this paper.

²⁰ See for example complex time structures, as I have shown in H. Gottschewski: *Die Interpretation als Kunstwerk*, Laaber: Laaber-Verlag, 1996, 284-299 and passim; and hypermetrical order, as described in H. Gottschewski: "Takt und Metrum in der Kleinform bei J.S. Bach," in *Archiv für Musikwissenschaft* LVIII, 2 (2001), pp. 144-177; and "Takt und Metrik in Bachs Fugen," in: Hans-Joachim Hinrichsen / Dominik Sackmann (ed.), *Bach-Interpretationen, Eine Zürcher Ringvorlesung zum Bach-Jahr 2000* (Zürcher Musikstudien vol. 3), Bern: Peter Lang, 2003, pp. 81-120.