

## ZEITMASZE (TIME-MEASURES)

(Introduction to a concert on August 21st 1992 in which ZEITMASZE was performed by the *Ensemble Modern* under Stockhausen's direction in the *Mozartsaal* of the *Alte Oper* Frankfurt. It was the first in the series of 7 concerts with introductions. The programme was: GESANG DER JÜNGLINGE (electronic music) – ZEITMASZE for five woodwinds – KONTAKTE for electronic sounds.)

The composition ZEITMASZE, which we are going to play for you, came into being during the time I was composing GESANG DER JÜNGLINGE. Before we play the entire piece I would like to let you hear what we have practiced during the past two weeks by having you listen to several sections of the work.

Until ZEITMASZE, all music was written in bars with prescribed tempi. The music of the first minutes of ZEITMASZE is also notated in bars, and the musicians play in time. The tempo changes several times. Then, over the entire work, the following development takes place: For the first time, the musicians separate from one another in time, and I use different time-measures in order to ensure the independence of the individual instruments that one hears.

There is a certain number of these time-measures. One of the time-measures is: *Play as fast as possible*. The English horn is the first instrument within a five-layered superimposition that plays *as fast as possible*. What does that mean? It means that in spite of the fast tempo, one should be able to hear every note, and clearly articulate. The notes have various lengths, however. Thus, the group of fastest notes determines the meaning of *as fast as possible*. Accordingly, also slow processes can also take place within *as fast as possible*.

(Example 1, **English horn**: *as fast as possible*)

At the same time, the oboe plays another time layer. It begins with bars, and after these bars, it plays freely. However, everything it plays should be played *as slowly as possible* in one breath. The tempo that we will now play for you is the result of the length of one breath established during rehearsals.

(Example 2, **Oboe**: *as slowly as possible* in one breath)

The clarinetist abandons the fixed tempo after three bars, *plays fast and slows down*. In this work, ritardandi should end **four times slower** than they began.

(Example 3, **clarinet**: *fast – ritardando – ends four times slower*)

This is only a section of a time layer of what you will hear later when everyone plays together. Other time-measures will also be played.

You have now heard three different time-measures: *as fast as possible*, *as slowly as possible* (everything in one breath), *fast and slowing down*.

Now we will listen to the English horn playing an entrance later on: *beginning slowly, accelerating*, ending **four times faster** than at the beginning.

(Example 4, **English horn**: *slowly, accelerating*)

The flute plays still another form of *as fast as possible*, namely a large number of notes that I did not even measure, the speed of which results from other time-measures. In the middle of this section, a small core of measured time appears. Then, another group of fast notes follows. Thus, this *as fast as possible* does not result in regard to a prescribed tempo, but rather results from three sections: free group, measured time, free group.

(Example 5, **flute**: free group, measured time, free group)

This whole time, the bassoon plays *in the metric tempo*: measured in bars, with prescribed metronome tempo ♩ = 112. Later, all the other time-measures will be combined with this bassoon layer.

(Example 6, **bassoon**: Tempo 112)

We will now play the same section with all instruments for you, beginning a few bars earlier in the measured time. Then you will hear the entire five-layered time complex. The instruments separate from each other, and we meet again later in the common, metronomically-measured time.

(Example 7, **ensemble**: uniform tempo at the beginning, then 5 different time layers)

A similar process follows: After many bars have passed (between what you just heard and what is yet to come) and all instruments play once again in the same metric time in the same tempo, the following happens: We play in the same tempo; but I slow down the tempo for everyone and arrive at *as fast as possible*. Thus, very strange processes result: that one suddenly lands in a very slow tempo, but several notes are so fast that they cannot be played faster. These notes are decisive for the tempo at which one has arrived. In addition, it is important that the individual layers in the common time effect completely different subdivisions of these bars in such a way that one could imagine a **time-spectrum**. This term occurred to me back then because I was composing electronic music at the same time, in which tone spectra are found. Similarly to the way harmonics determine the colour in a vowel, for example, there are also time-spectra, in which by way of sub-dividing a basic time value into 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 units, a time-spectrum emerges.

Our body is also a time-spectrum: The organs have different tempi. A solar system is a time spectrum with different speeds of rotation, different tempi and individual rhythms of the planets.

In this sense, you will now hear this kind of time-spectrum – a *moment*, as one could say. It is important that the instruments stop every now and then and thus leave holes or windows through which one can hear the other instruments more clearly.

(Example 8: Time-spectrum with *holes* or *windows*)

The following moment is determined by the English horn that plays *as slowly as possible*. You hear it by itself first. It forms the backbone of a time structure that you will hear later in its entirety.

(Example 9: **English horn**)

Soon, all will play together.

I call what now emerges a *time body*. You will note that sharp accents – which articulate – come into the English horn layer. The musicians stop playing now and then and enter again, like

insertions, just as a body is built with different contours and is determined by a vertical line, for example, around which the volumes vary.

(Example 10: **ensemble** with changing degrees of density)

The following moment is composed of 5 layers. The individual time elements are time-points in the true sense of the word; but each point comes from a different tempo layer within a constant tempo, and then time lines with groups emerge from the time-points. That means: The musicians play longer successions of notes *legato* (slurred to each other, not separated by pauses). They sometimes have dangerous curves to play, because of sudden changes in speed that increase the velocity within the time lines and then slow it down again. That is why I use the word *time curves*. They then end again in periodic time, i.e. a common time with a determined pulse.

(Example 11, **ensemble**: measured time with changes in density and speed)

In the following excerpt, you hear time layers that build up to a block like an architectural structure. The individual layers enter consecutively at the beginning, and then there are *time junctures*. Time junctures are where different tempi encounter each other in time. When the musicians separate and follow different tempi on their own, there are very particular places where they meet, and they then later sever themselves from these junctures. It is interesting to follow how many meet again at certain points. I must then intercept the instruments again and again, keep track of where they are, and start them up again.

(Example 12, **ensemble**: *time junctures*)

The following is a complex that combines many aspects of what I have explained to you so far. Different time layers have their own tempi within the interplay of the five musicians. Fragments enter and disappear. Windows emerge: acoustically transparent moments, in which little solos can be clearly heard.

After the solos, blocks are formed when suddenly several musicians meet each other vertically. These blocks have a certain form of time progression, with initial transients and decays, like the sounds themselves.

(Example 13, **ensemble**: initial transients and decays)

Finally, I would like to play an example in which we are first in synchronous time, with synchronous entrances within a static sound. Afterwards, free and measured time is superimposed. That is: several instruments play in the prescribed tempo in bars with me, and other musicians sever themselves from the common tempo. Then we meet again in periodically formed, metronomic measured time. Later, after what we will now hear – the result of this whole development will follow.

You increasingly notice: Out of the isolation of the individual musicians in various times, more coordinations gradually emerge: starting, stopping, returning, leaving a few windows open, forming blocks. An increased amount of coordination develops throughout the work. At the end it becomes clear that 12 different metronome tempi occur that are arranged in steps like a chromatic scale, while the musicians change the metronomically measured tempo and at the same time can also play in different tempi.

ZEITMASZE is directly related to my GRUPPEN *for 3 orchestras*. In this work, three orchestras are arranged in a horseshoe around the audience, each with its own conductor. Sometimes they play in

the same metronomic time, but then usually with *ritardandi* and *accelerandi*. In most of the moments of the piece, the three orchestras play in different tempi.

This music is so unbelievably exciting to conduct, just as it is for the musicians to play, especially when everyone meets each other again after having played in different tempi for a long time, and then finds out if it works.

(Example 14, **ensemble**: different tempi, time junctures)

I have tried to help you hear what we rehearsed. Now we will play the whole piece.

(Example 15: ZEITMASZE, entire piece)