Time and Music

Time is relative. We all know we have moments where time seems to go faster or slower. When you are making love, an hour seems to last a minute. And when you are in pain, it is just the other way around. So there is no absolute time, only the experience of it, which is coloured by circumstances and the workings of our mind. Indeed, perhaps the entire concept of time is a figment of our mind[1]. That is what I think it is.

Scientifically, for those who prefer that approach, there is the theory of Albert Einstein's special relativity, which proved in a mathematical way that time indeed was relative. And he sort of made time disappear when he realized that time and space where just manifestations, features of a greater concept, which – for lack of a better word – he dubbed "space-time". Which is not a mixture of time and space as we know it, but an entirely different and almost unknowable super-concept, a feature of Oneness, that can be experienced in extreme situations on a cosmic scale, but in normal life on a planet doesn't show up very clearly to us. Or does it? Let's find out.

Music; time = tempo

But what does this have to do with music? Well, this morning YouTube channeled me to a video[2] where the great Russian pianist Grigory Sokolov[3] played a well known prelude of Frédéric Chopin[4]. It is the eleventh in his famous series of 24 preludes op. 28. It is a beautiful song, and I play this prelude myself since young, and it is one of my favorites (as all of the others are too). What struck me in his interpretation, was the rather slow tempo he took. Which worked out beautifully I think. But most pianists play it a lot faster. Perhaps this is because it is marked with the word *"Vivace"*. Generally, this is taken as an indication of tempo, of pace. Vivace then belongs to the faster tempi, it denotes a rather speedy way of playing. But Sokolov's take on this is apparently different. If I had to guess the tempo indication from just listening, I would have called it *Moderato* at most, or even *Andante*, which is a medium-slow type of pace. Not fast, as *Vivace* is mostly experienced.

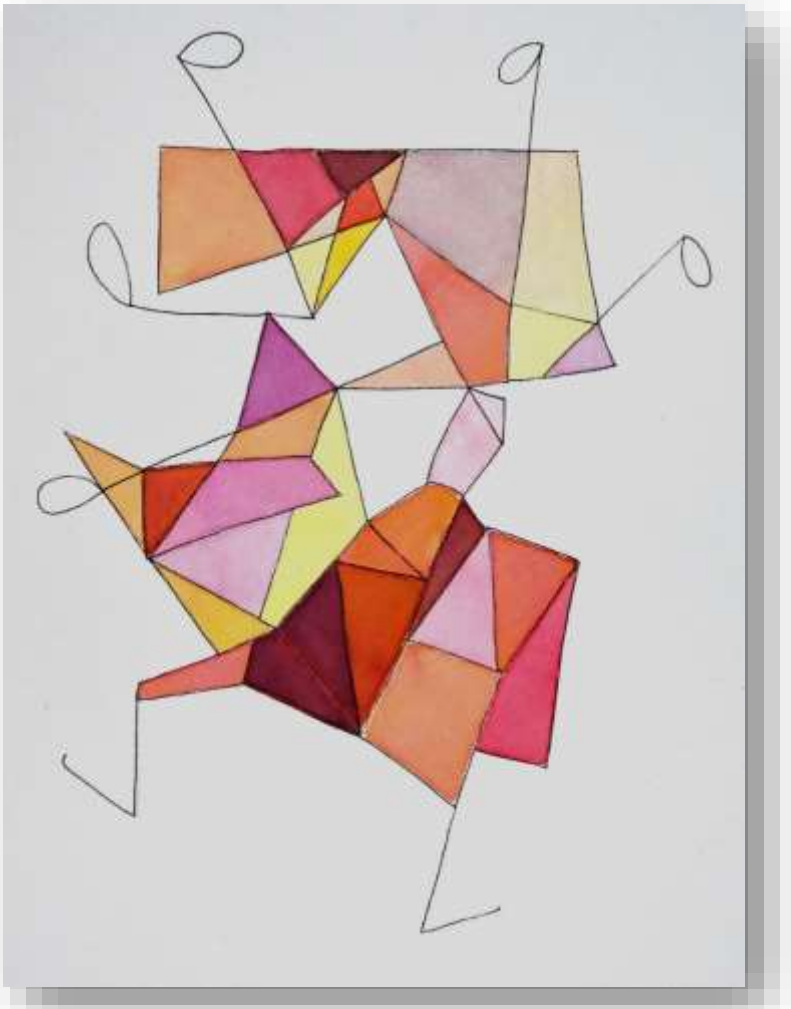
However, it suddenly dawned to me, that *Vivace*, an Italian word that means "lively", could very well be interpreted as a mood indication, rather than an indication of speed. It could point to a sort of "aliveness" and of course, aliveness can show in many ways. It doesn't have to mean

[1] For a revolutionary insight about Time, consult **Julian Barbour**, *The End of Time – the next revolution in our understanding of the Universe*, Weidenfeld & Nicholson, London 1999.
[2] To be found here.
[3] **Grigory Sokolov** (1950) is a Russian classical pianist. He is among the most esteemed of living pianists. With **Arcadi Volodos (1972)** and **Mikhail Pletnev (1957)**, he is the pianist that I most enjoy listening to. Apparently, there is something about Russian-schooled pianists that points to Oneness. And then, there is **Glenn Gould** of course. He is hors concours.
[4] More about **Chopin**: **J.P. Jordaans**, *Frédéric Chopin*, Jordaans & Parkins, Grathem 2021, Tale no. 17 on our website.

that something or someone is moving fast. A bird can sound very alive, even sitting on the branch of a tree. My grandmother *Manja*[5] always had a very lively look in her eyes and a bright mind, although at her age, she didn't move fast at all.

Word, or the metronome?

One of the ways that composers use(d) to indicate at which speed the composition should be played, is by language. They often use words to describe what they think would be the right tempo to play the piece. These are mostly Italian words, because much of the Western classical music we are so fond of today, comes from musical forms and idea's that were developed in Italy, and when these started to spread in Europe, the Italian language came along with it. Hence words like *Andante, Moderato, Largo, Presto, Allegro* are used to indicate tempi; *staccato, legato, portato* for articulation; *piano, forte, mezzo piano, fortissimo* etcetera for loudness. And this musical vocabulary is endless, too large to mention more of it here.



The Metronome – Debbie Parkins © 2021

[5] More about **Manja** in Tale no. 30 *(From the Hague with Love)*.

Later, Arabian numbers appeared to indicate tempo. This is because of the invention in 1812 of the metronome. The number refers to a number of beats per minute. Mostly there is the sign of a note (the little black balls you see in sheet music), often a quarter note (this is a black ball with a little stick attached to it, pointing up or downwards). And then the number is presented, for instance 60. So then the musician (in my case a pianist) knows he has to play 60 quarter notes in one minute. Which is a pretty slow tempo, in words often denoted with the Italian word *Largo*, which means slowly or broadly. Of course, no pianist is able or willing to count the activity of his fingers in this elaborate way, but the metronome made this possible. A metronome is a device like a clock with a lever, that swings from left to right and back again at a speed that can be exactly set, and at each swing (or half a swing – this caused a lot of trouble later, I will come back to this) it produces a loud "tick" sound. And if the musician synchronizes his playing with these ticks, he knows at what speed the composition is supposed to be played.

So musicians always knew how fast to play, by looking at the word(s) that the composer used to indicate this. It was not an exact way of indicating, but no one seemed troubled by that in those days, when time was not always money and people lived more at peace than nowadays. After that we got the metronome. Chronologically, the metronome is a sign of so called progress, but in my view this was a sign of decline in innate creativity and musicality – yet another artifice of mechanization that followed from industrialization.

Different tempi then and now

Generally speaking, most classical music nowadays is performed at higher tempi (faster) than in the olden days when the composer still lived or was remembered by his pupils. If we listen to very old recordings and compare them to modern versions, this is very clear. Also this is a sign of the speeding up of society.

Classical music in concert halls nowadays mostly needs to be performed in blocks of about 45 minutes, followed by a short intermission of about 20 minutes where people can wash their hands and have a drink and a talk, after which a second block of 45 minutes is programmed. This is different than in olden days, when classical music was performed for hours and hours and lasted an entire evening. The audience just talked and socialized while the music was playing and went in and out the concert hall for various reasons, to get some fresh air or have a meal. No one was bothered by that. But nowadays the concerts a structured more strictly, one should not talk or eat while the music plays and stay motionless on the seat (and don't cough, fgs). This is perhaps also why the applause afterwards feels so good, not only to the musicians but to the audience as well – finally they can let go of all the energy and emotions they have been bottling up during the performance, not allowed to blink an eye.

A composer should not only write compositions that last 45 minutes even, because people also want to hear some shorter pieces like an Overture, or a Concerto, and only then perhaps the Symphony after the break. And orchestra's that wanted to play longer symphonies of olden days, had to speed up the thing a bit to finish it in time. Also, wax cylinders, LP's and later CD's had a maximum amount of time available for recording. So with recording media, speed became an important factor and time became money again, because two CD's were more expensive than one, the concert hall was rented for a certain amount of minutes, *etcetera*.

What is the right tempo? *Tempo giusto*

This is a matter of intuition and musicality. Which is partly a matter of conditioning and learning. Musicians play like their teachers and the composers taught them. And this goes back to the origin of the composition, because teachers of now are taught by teachers of then.

And the introduction of the metronome did not change this very much, fortunately. We should therefore not take the metronome indications too seriously. We can still very well look at the words that composers used to indicate the tempo. The best indication in my eyes is: *"Tempo giusto"*. It means "in the right tempo". Which is originally indicated mostly in compositions of a certain style, like a march or a dance, meaning "the usual tempo". It can be fast or slow. Most marches are played briskly, except for instance a funeral march. And there are fast dances (like a Polka or Quickstep) and slow dances (like a Rumba or a Bolero). But in fact, all music needs to be played in "the right tempo". And every musician needs to find this intuitively.
And in many cases, like in music of the times of Johann Sebastian Bach[6] (the baroque period), indeed there even were no tempo indications at all. But there were conventions, like a concert consisted of three parts, the first being fast, the second slow, and the third fast again. Or just the other way around, starting with slow, than fast, than slow again. And the mood of the composition would indicate whether it should be played faster or slower. Also, a few longer notes per bar (whole notes, half notes, quarter notes) mostly indicated a slower tempo, while many shorter notes (quarter notes, eight's notes, sixteenth notes) indicated a faster tempo. Besides, some compositions had names like Sarabande, Courante, Gavotte or Gigue which gave some indication to a preferred tempo as well. And composers played their own work and were teachers as well, so their pupils and conductors had a good idea of what they were supposed to do and this wisdom procreated in time.

Were things easier after the metronome entered the stage? Hardly. First of all, metronomes in the old days were not very well constructed and often in a bad state, so composers that used them, sometimes selected the wrong tempo indication. And there is even presently a fierce battle going on in metronome-world, where some practitioners insist that all the tempo indications should in fact be played at half the speed that most other musicians do. They defend the possibility that the movement of the metronome, producing two "tick" sounds, should be counted as one "full swing" in stead of two: the "double beat theory", which is not a theory at all because I think there is not enough historical evidence to support this, but still the conjecture seems to hold truth for those who want to think that way. And of course, in reality their opinion is as "right" or "wrong" as the opposite one, that acts as if the metronome indications, or the verbal indications of the composer, or even the traditional practice of performance, is something to be followed absolutely. Which is, in my opinion, not the case at all. They are just indications that could be used as a suggestion, but I feel every musician must for himself determine with which tempo he really resonates. That is one important feature of musicality.

[6] **Johann Sebastian Bach** (1685 – 1750) was a German composer of classical baroque music. He was also an organist, conductor, harpsichord player and teacher. In his days, he was appreciated and well known, but only after the German composer, conductor, pianist and violinist **Felix Mendelssohn** (1809 – 1847) started to promote Bach by performing the now famous **Matthäus Passion** on Easter, Bach got his legendary status that we acknowledge today. Also the Canadian painist **Glenn Gould** did a lot to popularize Bach's harpsichord ("Klavier") music by performing it on the modern piano like no one did before.

A little sidestep to Mathematics – the paradigm shift

There are many factors involved that determine what tempo is right in music, in life, or in nature even – that is, if tempo exists at all. Nature is not singular. We see this in all of its manifestations. When more factors are considered, more answers will be allowed to the same question. Because we seem to be talking about numbers here, let's look briefly at mathematics. A simple function can have one answer to every input. But if the function becomes more complicated, more answers will fulfill the equation. A quadratic equation $x^2 = 4$ will allow for two answers, but only if the realm of negative numbers is incorporated as well, namely x = 2 and x = -2. This calls for a paradigm shift, and in history this particular one happened between 200 BC and 200 AD during the Chinese Han Dynasty. And if even negative powers of two are allowed, as in the equation $x^2 = -1$, a whole new plane and dimension of possibilities opens up that we call imaginary and complex numbers; and this paradigm shift[7] first appeared in the mind of René Descartes (1596-1650). And probably another paradigm shift is required to solve some of the remaining mysteries or conjectures in mathematics, like for instance the Riemann[8] hypothesis, which is closely related to complex numbers. The paradigm shift – in a previous tale[9] I called this "the 180-degreeg paradox" – will mostly not solve the problem, but rather dissolve it. The conjecture will not so much be proven, but on the higher level of understanding rather become self-evident. After that, mathematicians will understand that and why the conjecture can't not be true.

The mythical equivalent of paradigm shifts like these could be the realization of time, that allows for a future and a past to appear, with the experiencer to be at the very point where future turns into past and time seems to glide by. When even this level of experiencing is surpassed – and we could call this enlightenment, or liberation – a new plane or dimension is entered where time disappears completely; there is no future and no past, and all is timeless and boundless. At most, there is a reminiscence of time in that realization[10], but also the knowing that this is an illusion. This calls for a more intuitive realization of time, which happens to all of us when we enter a state that many describe as "being in the flow[11]" (like when making love).

And now we are back to music again, because we could express this in music as well. This is what composers do[12]. And vice versa, hearing or performing music is a powerful means to bring

[7] **Max Planck** (1858-1947) the German phycisist who was the originator of the Quantum Theory, cynically said about this: "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it". In: **Thomas S. Kuhn**, *The structure of scientific revolutions*, The University of Chicago Press, 2012.

[8] **Georg Friedrich Bernhard Riemann** (1826-1866) was a German mathematician. The Riemann hypothesis is a conjecture that is considered to be the most important unsolved problem in pure mathematics. It presumes that all the non trivial zero's of the Riemann zeta function lie on the critical line consisting of the complex number ½ + *it*, where *t* is a real number and *i* is the *imaginary unit*. In my highschool time, complex numbers was one of my favorite subjects and I even thought that I understood what this was all about. Later, when I studied econometrics, this turned out to be an illusion.

[9] Tale no. 25 *(A Theory of Neverything)*.

[10] See for an explanation of this term Tale no. 27 *(Experience or Realization – a little nondual dictionary)*

[11] More about the neuroscience of this state of consciousness in Tale no. 39 *(Is Enlightenment a form of Neurodiversity?)*.

[12] See See **David R. Loy**, *Nonduality in Buddhism and Beyond*, Wisdom publications 2019, p. 155-168 for a good impression of what being in this flow of the task positive network feels like for creators, like poets or many composers of classical music like **Mozart, Tchaikovsky, Brahms, Richard Strauss, Wagner, Puccini** and for

us in a state of flow as well, a sort of temporary enlightenment, where time seems to disappear all together and we feel that we are completely beyond this dimension, albeit only for a short while. I think this is part of the miracle of music.

The pulse of a musical work; let's listen to Glenn Gould

A perfect example of this is the Canadian pianist Glenn Gould (1932-1982), who became world famous mostly for his interpretations of the music of J.S. Bach, partly because of the very fast and crisply clear way he played many of his compositions. In particular, his recording of the Goldberg Variations of Bach is legendary. This wonderful piece of music consists of an Aria, a slow movement that introduces a theme. And after that, the theme is presented in 30 variations, played at vastly different tempi, after which it concludes with the original theme of the Aria. Gould made a recording of this work in 1955, which brought him a lot of fame. But later in life, when he had matured, he wanted to have this reflected in a new recording of the Goldberg Variations; this was in 1981, shortly before his sudden death.

Gould's first recording lasted about thirty-eight minutes. But his second one seems slower overall (especially the Aria), and lasted fifty-one minutes. In reality, the difference was not that large, because in the second recording he included about a dozen repeats that he left out in the first recording. When corrected for that, the second recording is not that much slower than his first one. Some variations he even played faster. And overall, even this second recording was not "slow", compared to other recordings that existed or appeared later. Mostly these average on a little short of ninety minutes.

So, if not for total length, what did Glenn Gould mean when he said that he wanted to find more proportional rhythmic relations between the variations? In an interview[13] with the famous music writer and critic Tim Page he said, asked about the different tempi he took in the second recording:

> *"I have come to feel over the years that a musical work, however long it may be, ought to have basically one pulse rate, one constant rhythmic reference point. I would never argue in favor of an inflexible musical pulse (...) (but) you can take a basic pulse and divide it or multiply it, not necessarily on a scale of 2, 4, 6 ... but often with far less obvious divisions (...) and make the result of those multiplications and divisions act as a subsidiary pulse for a particular movement or section of the movement. (...) So in case of the Goldberg (variations), there is in fact one pulse which, with a few very minor modifications (...) runs all the way through out".*

Which pulse to take?

This sounds very true to me, it resonates with every bit of my musical instinct. And it only leaves one question to ask: how to find this pulse? Well, I always find more of my answers in

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the writers **Thomas Wolfe, William Blake (Milton), Goethe, George Eliot, Dickens and Lewis Caroll**; also **Nietzsche**'s definition of inspiration directly refers to the revelatory aspect of creativeness.

[13] In fact, it was more like a staged radio play, because Gould had written the text himself, not only his answers but also the questions that Page would ask, cleverly ensuring that all he wanted to say would be addressed, and in the right order.

nature than in thinking, so let's take this word "pulse" for what it means and look at the pulse of our body, of our heart. This pulse rate varies with emotions, with activity, with stress. But even if we take the pulse in rest, let's say while in deep sleep or meditation, there is still a wide variety between human beings. And that's perfectly fine. So it should also be with musicians. We are different people, but we can all refer to our own heart beat. And play every piece of music with a subsidiary pulse that is in some way, depending on the piece, taken from our own heart beat, divided or multiplied by an intuitive factor. Of course, as Gould mentioned in the interview, for an approach like this to work, *"one must feel it in the bones".* In other words, it is not a sterile intellectual exercise, but an intuitive endeavour.

For me, finding this pulse is a matter of creativity, sometimes of simple trial and error by playing the composition in vastly different tempi. These need not coincide with the metronome number, or the words of the composer, or the known recordings of my fellow musicians of all times – although sometimes a good example will strike a chord, as I described in case of Sokolov's eleventh Chopin prelude. This experiments will make me find the exact tempo that I resonate with. And such tempo can even be different every time I play the composition, depending on unknown factors of Oneness. I don't have to know why – I can't even. The subsidiary pulse is not fixed. Music making is not a science, fortunately. It's Art. And Art, like I described earlier[14], has traditionally always been a way of exploring Nature that stood out against other endeavors like science, philosophy, religion or mysticism. In my view, it was and is a more profound type of search that transcends the divisions between these other "methods" by using the process of creativity to capture the overall essence of reality.

So, to answer the question: I take the Natural pulse of my heart. Or even better: the pulse of The Heart (Oneness). And all music of course is a projection of Aliveness. So music must be played naturally and lively. In Italian, this is *Vivace Naturale*. Which can be as slow or as fast as I like. This suits me very well, getting more mature some of the impetuous tempi I took in my youth are not sustainable anymore for my hands and fingers, or for my entire being. This is how Nature's grace works. So, my *Vivace Naturale* is now slower than it used to be.

It has turned into *Vivace Naturale con Grazia*. And Debbie and I even try to live our entire life this way. *Ciao!*

Grathem, 7 February 2022

[14] In Tale no. 10 *(Everything is Wholeness).*

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