

"THE FUTURE OF MUSIC"

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1. WHAT IS MUSIC? 2. EVOLUTION. 3. PRESENT 4. FUTURE. 5. COMPOSITION

The motto:

Wisdom is one -- to know the intelligence by which all things are steered through all things. [Heraclitus]

The lack of means in verbal communication is enormous. The true meaning of music can only be revealed by music itself. Consequently, what the future will be I cannot *say*; but my *music* may give you a hint or two.*)

In the social context of contemporary art music, there is a danger that the verbal explanations threaten to replace the "real thing" in one's mind. This is a well-known general problem in the interrogation of witnesses. The more they describe what they have seen or heard, the less they remember of the actual event. The inadequate verbal description eventually replaces the visual and auditive experiences in their minds.

Thus, it is not easy, if at all possible, to open-mindedly listen to a piece of music *after* reading the program comment and hearing what the composer, the performers, a critic or your friends think of it. If you read the program notes only afterwards and then compare your experience with what the composer says and discuss it with other listeners then, you may find the great multitude of different experiences and opinions rather puzzling. In the worst case, there is a fairly trivial musical experience to match with the composer's megalomaniac intention of saving the world.

All this said, we are still bold enough to attack the great question.

1. WHAT IS MUSIC?

...Timeless Now of the Divine Spirit...

The word **music** is today used to indicate a great variety of things. Entertainment, philosophy, social activity, listening to or making sounds, organized symbols on paper, abstract concepts, structures, actions, etc.

Thousands of years ago, among the Greek philosophers, the concept was clearer: *the organised relationships between things*. In ancient China (Li-Ki, ca. 200 B.C.), the definition goes: "When emotions rise, they are expressed with sounds, and when these sounds are organised, music is born." Neither the emotions nor the sounds are music. Only the *organisation* can make music out of them -- regardless of whether the sounds get organised in the listener's, or the composer's, or the Creator's mind. Stravinsky still agrees with Pythagoras: "Music is given to us with the sole purpose of establishing an order in things". Hieronymus Cardanus in *De Musica* 1546 touches a vital point: "Music is a discipline that teaches man to recognize the meaning of sounds", i.e., no meaning -- no music.

...the supreme reality made comprehensible through sound...

For time immemorial, music has been the only way to reveal and understand the true relationship between the macrocosm, the outside world, and the microcosm, the inner world. In other words: the way to reveal the meaning of existence. Small wonder that, for thousands of years, music has been regarded as the most important of all sciences. Already, Pythagoras noted that, music is the most important one of all sciences, because true understanding -- attained through music -- of the divine order of the universe and man's

integral part in it would inevitably make people virtuous. In other words, music not only helps to understand the micro- and macrocosm, but brings man into harmony with the universe.

Music is also the most immediate way to influence peoples' minds. Therefore, it usually was regarded as a privilege for the ruling class to decide what kind of music was allowed and when. While, in the Occident, Plato claimed not to care who made the laws, if he could determine the music. In ancient China, Confucius stressed that, in education, the primary level is concerned with learning practical things and proper behaviour, while the second level of education is obtained through poetry, and the highest level through music.

"...an innovation in musical style has invariably been followed by an innovation in politics and morals. And, what is more...the decline of music [in Egypt and Greece] was followed by the complete decline of the Egyptian and Grecian civilizations themselves." (Cyril Scott: *Music, Its Secret Influence Throughout the Ages*, 1958)

Because of its ability to not only reflect but also influence the world, music is prophetic. In ancient China, the Emperor made yearly inspections of his empire through listening carefully to the music played in different parts of the Empire. The changes in music predicted changes in the society and thus could give the Emperor excellent advice on acting before it was too late.

...to become aware of the true nature of one's being and one's relationship with the universe...

Music is used as a way to stay in harmony with nature (a daily rite among the Pygmies still today), to heal (according to Novalis, every illness is basically a musical problem), to stay in contact with one's ancestors (of central importance to many African tribes), to learn (studies show that students who skip every other language or math class to attend the music class, learn languages and math faster than students who attend all their language and math classes), and to remember (a medicine-man on a South Pacific island can sing the names of all the ancestors of every islander from the very moment the tribe originally arrived on the island -- over fifteen-hundred years ago!), to ascertain a good crop (unfortunately regarded as too "unscientific" to be in wider use in agriculture), to sharpen awareness (we all know *that*), to worship (in use everywhere), not to speak of sheer intellectual play, seduction, meditation and, yes, even entertainment.

...the fastest way to immortality...

Music is biology -- how to be in harmony within oneself, body and soul. Music is physics -- the musical laws ruling the intercourse of those vibrating centers of energy called particles. Music is cosmology -- how the universe functions. Music is your own mind. To quote the renowned brain specialist Matti Bergström: "Music is the brain's own language, the language the brain uses to communicate with itself".

It is often said that mathematics is like music, but this is a bit far-fetched. It is true that the pure mathematics works more with abstract ideas than with numbers. We could compare pure mathematics with true music, and applied mathematics or simple calculations with entertainment or "commodities". And just as representatives of *applied* mathematics say *abstract* mathematics is useless, because you can't sell it, the representatives of *entertainment* ("applied") music makers sneer at *true art* Music. No buying and selling -- also a waste of time.

The great power of music is not in sounds, but in the abstract structures the sounds are used to represent. Sounds are not a necessity for music, but they have proved to be an excellent means to reveal and experience complicated multidimensional nets of musical structures. Intelligent animals, like dolphins, gather to listen to Bach but flee from certain minor composers' music. Plants blossom or die depending on the music they are exposed to. Music is not a matter of taste, it is a question of life and death.

2. EVOLUTION.

To understand the future, you have to take a look at the past. Many people claim there cannot be any kind of evolution in the arts. "History develops, art stands still" (E.M. Forster). How can they possibly know that the music of our ancestors, thousands, even millions of years back -- some Australopithecids, fish, even amoebae -- was of equal quality to that of Bach and Mozart?

Others claim there has been evolution "till my youth", but no further progress is possible because "no better music can there ever be than the music of my youth". Lack of imagination or unbelievable arrogance? I think that in art, just as in everything else, there has been, and always will be, an everlasting evolution -- from universal harmony, to the origin of life, to man and beyond. How could we possibly stop it? Only you may not notice it, if you only compare the latest art to your dear old favorites.

Darwinians believe in mutation and natural selection as primary tools of evolution. Richard Dawkins, according to whom we are just biological armours for protecting selfish genes, has taken the idea a step further and introduced the concept of memes, or "cultural genes". Memes are our thoughts, sayings, actions, whose primary "selfish" goal seems to be to get copied. Depending on their appeal, they may or may not spread out and even become common knowledge and skills. Compared to genes, they reproduce faster (up to a billion copies in no time through the media) and also evolve faster (practically each copy is likely to include a tiny error, a "mutation"). These memes are the culprits in our science, art, and technology. This kind of knowledge is not hereditary. We learn it from others, who knew it before us. The point is that in a sense memes have become more important in natural selection than genes. Poetry and music are more seductive than bodybuilding.

"Without music, life would be an error" [Nietzsche, *Twilight of the Idols*, 1888]

The majority of people always resist *any* change, especially in art. This behavior is certainly not an invention of the 20th century, and we should be proud of being resisted. It shows that we have achieved something worth resisting. If we study the recent history of music, we understand that:

Monteverdi was criticized for composing music that was against nature and dangerous to mental health. J.S. Bach's music was regarded as unnatural and boring; it had "no melody, no form, no invention". Chopin, that "composer of perverted mazurkas", wrote music in which no one "can form the slightest idea when wrong notes are played". In short, "the entire works of Chopin present a motley surface of ranting hyperbole and excruciating cacophony". Beethoven's 5th Symphony was "odious meowing" with "discords acute enough to split the hardest ear". Beethoven, mainly, "adds melodic ugliness to harmonic ugliness".

But we can also see some quick evolution in reception. Hardly had Beethoven and Chopin been revalidated, when Brahms' symphonies were found to prove "the most intensive musical impotence"; they were "mathematical music evolved with difficulty from an unimaginative brain." Soon, however, Richard "Squealing-Of-Rats" Strauss "makes Brahms sound like a folk tune". Debussy's "garbage" made the listener long for Strauss, though, just before, the dissonances in Sibelius' 4th Symphony "eclipsed the saddest and sourest moments of Debussy". Not to speak of the music by the 2nd Viennese School, which led to fights, trials and tribulations, and was testified to as being "dangerous to mental health" by an M.D. (who may or may not have been familiar with the case of Monteverdi).

There is a strange familiarity in such a vocabulary, isn't there? Lack of emotion, madness, mathematics, trickery, absence of logic, ugliness, impotence, and -- of course -- no respect for "tradition" (i.e., for the preceding generation). It could be read in today's newspaper -- or from an ancient papyrus. Over two thousand years ago, Aristophanes was upset that the younger generation of musicians had no respect for the tradition, "they try one novelty after another" and create "a mixture of incongruous melodies without rhythm or any semblance of sanity". Aristophanes was afraid that "the habit of innovation will soon infect the entire state". Unfortunately, this didn't happen. A strong resistance cannot prevent art from developing, but it can retard its development considerably.

"no matter how small, every action on earth has a repercussion on the most distant star in the universe" [Iannis Xenakis, *Formalized Music*]

People ask why do we need new compositions, aren't the classical masterpieces enough? The same people may buy a newspaper every day, although they already have piles of old newspapers in the house, and see

nothing contradictory in all this. Reading the old newspaper would be so much cheaper and easier -- just like listening to a Vivaldi concerto would be.

On top of this: the novelties that are so strongly opposed are usually nothing new in music. For instance, the use of formants in compositions was regarded as something new in the 1970's, but, already in Aristophanes' time, musicians had developed a playing technique that made the lyra imitate the sounds of words. And early 1600 Monteverdi could hear the formants of a spoken text and compose music, where harmonies were based on them. Many other, if not all, musical phenomena hailed as novelties in the 20th century, were "new" only because people were unaware of their use in music hundreds, even thousands of years earlier.

The resistance is strong, but the need for new music is always stronger. Why is there such continuous need for new compositions? Why is there a need for a composition at all? Most people on the planet seem to do all right by just singing and playing, without any composed or written music. Obviously, the rapid development of modern society and new technology creates structures too demanding to be sorted out by simple improvisations or pop-tunes. We can *escape* the present, to the world of historical or folk music, but to *face* it, we need compositions that are born out of our own time.

Did I say "development of technology"? Letting music profit by technology is by no means a novelty. One of the first known automatic instruments was built by Plato. In the 9th century, the Byzantines marvelled at singing mechanical birds and a couple of centuries later programmable automatic instruments (with up to ten thousand memory locations!) were being made. Binary code was used for musical instruments several centuries before the principle caused a revolution in the weaving industry. The 18th century was a golden era for all kinds of mechanical instruments. One of the earliest electric instruments was an "electric harpsichord" from the 1750's. Twenty years later, the first recording device was presented, a precursor of the pianola, where the keyboard player's action was mechanically drawn on a paper-roll, recording not only the beginning and the end of each keypress, but also the force with which the key was hit.

Why have these devices not survived? People were really impressed by these inventions, but -- they could not imagine any use for them! Indeed, why use electricity to play an instrument, when you can play it without? And why record a player's action, when it is more interesting to listen to a different interpretation, preferably a different piece next time. (Such a pity -- we could now have Mozart's and Beethoven's own interpretations of their compositions!) Nicholas Winkel's composition machine, Componium, which could compose variations on a given theme, didn't have much chance in the 1820's. Just as people couldn't imagine any real use for the telephone, and even Edison couldn't imagine that the main use for the phonograph would be a musical one.

3. PRESENT.

We keep complaining about all kinds of things, especially about the poor status and living conditions of composers. In the worst case, we envy the great masters of the past. Actually they had much, much more reason to complain. Life has never been so good as today -- even for a composer. Or would you really change your life for a life filled with debts, diseases, and contempt, waiting for your premature death to end the misery -- before having any recognition of your art? Those were the halcyon days!

What else is better today? First, the level of performances. Monteverdi could never be sure which musicians would turn up for the performance and how many of them would be sober enough to play his opera. In the 18th century, an orchestral piece had either one rehearsal or none, and the first performance was often the last one too. Even more than today, charlatans were more popular than truly great artists. When Beethoven, at the height of his career, arranged a concert with some of his greatest symphonies and concertos, there was no audience. Beethoven never fully recovered from this economic catastrophe. Bach wasn't respected as a composer in his lifetime and probably never heard a really good performance of any of his works -- unless he played it himself. And we all know what happened to Mozart.

Secondly, the number of listeners. Through modern media a single performance of our music can reach millions of listeners. More than Mozart had in his whole lifetime, not to speak of Bach or Monteverdi.

Thirdly, tools and working conditions. With samplers and computers we can experiment not only with electronic sounds but also simulate acoustic instruments and voices. We can do all this in the comfort of our warm homes and are independent of assistants. When Bach wanted to practise on the organ (in a cold church), he first had to find some people to trample on the bellows.

Fourthly, the availability of music in general. Copying music sheets and distributing records is fast and inexpensive. Not to speak of the hundreds of festivals where contemporary music is performed. And you can go to these festivals fast, no need for ox-carts or walking 600 miles as Bach did just to hear Buxtehude play. Also -- believe it or not -- respect for composers is higher today than it ever was. At least we don't need to suffer thrown stones and hearing insults every time we go to a pub, something Beethoven had to get used to. Or keep going to court, just to have the right to be the musician that you are, as Bach had to. Mozart's body was just thrown away, he wasn't even worth a tombstone, but when Sibelius died, the glorious funerals were funded by the state and the whole country was in mourning.

So, instead of *complaining*, how about concentrating on *completing*?

"What is divine escapes men's notice because of their incredulity". [Heraclitus]

We do have one difficulty, if you really want one, that the previous times did not have. The musical life of our time carries with it the weight of the whole history of music (emphasis on *history*). Up to the second half of the 19th century, audiences were only interested in new works. Old works were not interesting. If there were no first performances in the program, people didn't come to the concert. True, some eccentric people did have a penchant for older music. John Pepusch even founded the Academy of Ancient Music in London in 1726. There "ancient" (more than twenty years old) pieces were played, including some Händel, who was still alive and busily composing, but in the 1730's already out of fashion (!). Despite the fact that the meetings were in pubs, this academy finally dried up for lack of interest.

Today, orchestras, chamber ensembles, and soloists concentrate on music even older than twenty years and know very little of the music of their own time. But maybe this is just a temporary phase in history. We now want to experience music through its historic context, and when we think we know all we want to know about it, we put it in the place of honour, in a museum, i.e., an internet site, where people can still see and hear it whenever they feel the urge. Relieved of the burden, we all can then concentrate on new creations.

When we listen to the music of, say, the 18th century, we may enjoy it immensely, yet a great deal of it is forever lost to us, because we do not live in that period. The political engagements, religious disputes, personal mocking and joking go by unnoticed. Also, historical music is not played today as it was played in its own time. Often only a skeleton is presented; flesh, blood and soul are left out. To listen to a modern interpretation of Mozart or Bach is like looking at the ruins of an ancient temple and trying to imagine how it was in the days of its glory. We are so accustomed to this, that if we somehow managed to hear Mozart or Bach playing their own works, we wouldn't be able grasp all of it, because we simply are living in a different time. They would not be accepted into our conservatories either, because they would be playing their own music "all wrong".

Occasionally, composers performed the music of their colleagues. When Clementi played Mozart's piano works, Mozart did not mind that Clementi changed the rhythms, melodies and figuration to his own preference. This was the custom of the time. But he started to grumble when he noticed that Clementi was changing the harmonies, too.

Even worse, today, the artist is too often regarded as more important than his work. The worst examples of this come from the visual arts. Some years ago, in a Berlin art museum, it was discovered that the symbol of the museum itself, a praised Rembrandt masterpiece, *The Man with the Golden Helmet*, was not painted by Rembrandt but by one of his pupils. Instead of recognising the true mastery of the pupil, and cheering at the discovery of a new great artist who even surpassed Rembrandt, the reaction was just the opposite. The museum immediately regarded the painting as a disgrace, hid it in the cellars and

selected another painting for its emblem. The *art* was not important, only the *name* of the painter was.

Although this is not as bad in the musical world, concert organisers still think, that it is better to perform a bad piece by Mozart or Sibelius than a great piece by a less-known composer. International prizes also tend to go to people who are famous, regardless of their art, which the prize committee often doesn't even know.

"In order to find a new continent, you first have to leave the old one." [Satprem]

Because of this, we periodically need a reformation, to get rid of all the accumulated filth. The last fresh start was after the World War II, but a stronger one was around 1600. The usual method of reformation is: first leave the old trash behind to make space in your mind and to get free from your old habits, only then go on to discover something new. Interestingly, the experiments done around 1600 were for the most part the same ones done in the 20th century: excessive use of dissonances, polymodality, atonality, micro-steps, ultra-chromatism, clusters and fields, musical graphics, spectral music, symbolism, noise, program music, new forms and effects -- and above all the rejection of polyphony in favour of a new invention: harmony! Natural selection caused most of these experiments to hibernate till the 1950's. Even harmony, the strongest element in Western music, faded away with the rise of functional tonality.

We have an inborn need to simplify everything, especially culture and think of the history of music as if it consisted of stylistically unified periods, only: Renaissance, Baroque, Classical, Romantic... until our own time when "there are no mainstreams anymore". This is naturally an illusion. As soon as we have some temporal distance on events, we start to lump them together. And if you doubt the common factor in today's music, just visit an ISCM festival, and hear contemporary music from all over the world. Then see if you agree with the other visitors that "all the pieces sounded the same". I, of course, hope you don't.

Baroque composers never thought there was anything "baroque" in their music. And, we can already start thinking of a suitable name for the 20th-century music period. I think it must make some reference to the confrontation with the past, as the common factor in all the seemingly different styles has been their strong relation to the past: imitating, borrowing, opposing, or rejecting, but never independent of it. The "modern era" does not fit; there have been too many modern eras already in history, and many others will come.

The main reason we today classify music into countless categories is the presence of the entirety of history in our musical life. Including its more or less hidden presence in the new compositions! Just put a dominant-seventh chord in a serious piece of avant-garde music and listeners are put off at best, puzzled at worst. The standard of comparison for new pieces is more to be found in historical music than in other contemporary works.

When we look at the past century, some strange attractors seem to have started to combine styles and periods. At the beginning of the 20th century, we could define it by its strong pioneering spirit. Think of the first electric synthesizer, the 200-ton *Telharmonium*, which was transported in no less than 30 railway cars from the factory to New York City. Although it could only produce sinusoids and had to be listened to through telephones (no loudspeakers had been invented yet), the effort and money necessary was not regarded as wasted. Finding sets of cannons tuned in proper scales, or building and learning new instruments for each concert, are other examples of what we seem unable to afford today. An impressive number of utopist and prophetic pieces were written in the early 1910's -- no wonder the war broke out.

After the First World War, there was a strong need to return to light-hearted entertainment. Musical styles beginning with "neo-" came into vogue. Concurrently, the burden of history started to show its influence. Mainly thanks to the recording industry, for which it was faster, easier and eventually less expensive to publish historical rather than contemporary music. Consequently, after the Second World War, a restoration of discipline was badly needed. This reformation followed the usual path, first denouncing the past in order to see clearly other possibilities. "Back to the roots" meant not only the questioning of what are the basic elements in music, but also the return of ancient composition techniques, like

augmentation, diminution, and the symmetries of chosen musical cells. Instead of sinful wallowing in emotional brainstorming, music was constructed consistently according to a few rules ("genes"), in a logical combination (the "body").

In the 1960's: counter-reformation. Effects instead of consistency, sound-masses instead of detailed complexity, improvisation instead of blueprints, slow motion instead of hectic activity, "happenings". The 1970's heard another return to roots: what really happens inside a sound, and especially between two sounds, and what musical meaning could it have, were the main questions for the emerging computer aided composition. Time for static, repetitive music. In the 1980's we were wondering how the new and the old music could be sewn together, but post-modernism couldn't give an acceptable answer. Accessibility became more important than integrity. Popularity became more important than anything else in the 1990's. But also raised the question of how to force all cultures and traditions to co-exist in one "world-music" composition? No, neo-colonialism was not a solution. A musical culture that has been refined over thousands of years will not suddenly gain additional value if presented only as arbitrary fragments -- or through having a totally different culture splashed on top of it.

If we have to give a common nominator to the 20th-century music, it would be "the century where history took over". Indeed, innovation is present in all centuries, but this was the first one to deal with history. As it was the first time, no wonder it was overdone. Is it not now high time to try to make a synthesis of the past century, even the past millennium? As Bach did in his lifetime? Or should we just watch Stockhausen trying to do it?

4. FUTURE.

Although we know new music both predicts and influences the future, we usually notice it only afterwards. In the middle of the tumult of everyday life we too often miss the rare possibilities of immersion in the music of our own time. This may be understandable for the common man, led astray by commercials, but it is not acceptable for us, who are supposed to be experts in the field. We should be able to discover the *essential* among all the garbage and to bring it within the reach of the general public. They need it as badly as we do, because the music of today prepares us for tomorrow. In new music we can "rehearse" our minds to confront the most varied circumstances we may come upon in the future. When reality catches up, we already have acquired tools to face it. Music has always been a survival tool.

To predict the future of music is not difficult, as such. Already in the 1620's, at the same time Monteverdi enhanced the western world's musical expression by adding a third style, *stile concitato*, to the existing two, Francis Bacon, in his utopia *New Atlantis*, describes astonishingly well an electronic music studio of the 1950's:

"We have also sound-houses, where we practise and demonstrate all sounds and their generation. We have harmony which you have not, of quarter-sounds and lesser slides of sounds. Diverse instruments of music likewise to you unknown, some sweeter than any you have; with bells and rings that are dainty and sweet. We represent small sounds as great and deep, likewise great sounds extenuate and sharp; we make diverse tremblings and warblings of sounds, which in their original are entire. We represent and imitate all articulate sounds and letters, and the voices and notes of beasts and birds. We have certain helps which, set to the ear, do further the hearing greatly; we have also divers strange and artificial echoes, reflecting the voice many times, and, as it were, tossing it; and some that give back the voice louder than it came, some shriller and some deeper; yea, some rendering the voice, differing in the letters or articulate sound from that they receive. We have all means to convey sounds in trunks and pipes, in strange lines and distances."

We don't know the exact vocabulary of the future, and we cannot give exact dates, but, like Bacon, we can imagine what will happen, as soon as the means become available. When something becomes possible, man will do it. Think of all the inventions made during the last millennium, from telescope to space shuttle, from printing to computer, from musical automata to biological cloning. You can be sure even more will be invented in the next thousand years.

"Be the change you want to see in the world" [Mahatma Gandhi]

When an audience goes to a concert, it cannot decide what will be played. It has to trust the choices made on its behalf, by -- us! soloists, conductors, artistic directors, musicians. Not a small responsibility. If we don't take care of the preselection, commercial enterprises will make sure that the audience is given no chance. We have to choose because the general audience does not even know what the choices are. Besides, it does not want freedom of choice, but freedom *from* choice. Consequently, the more you have to offer, the more there is demand for it. Present good music and, slowly but surely, people start asking for more. But how to find exceptional experiences among so many commonplace pastimes?

Let's take J.S. Bach as a case study. Although today regarded as one of the greatest composers in the history of Western music, he was practically unknown in his own time, and all through the 18th and 19th centuries. He was the best, but still not known. Contradictory? Yes, but normal still today. Bach did know well his own value; still he was always eager to learn from others. When he died, no one thought his music might still occasionally be played. Even his son, Carl Philipp Emanuel, who regarded his father as "the greatest of all musicians", sold the metal plates for the *Clavier-Übung*, which Johann Sebastian had had engraved at his own expense, for the price of scrap-iron. Not for lack of respect, but only because he couldn't imagine any use for them -- the plates for the only pieces by J.S. Bach printed in his lifetime.

Although there was no intention ever to perform Bach's music, he was not totally forgotten. Mozart, Beethoven and company were impressed and influenced by Bach's compositions. Actually, an audience could hear Bach's music first in the late works of Mozart and Beethoven. Through the connoisseurs, Bach's reputation grew little by little. In the early 19th century, plans were made to publish the *Mass in b minor*, because "it surpasses in quality and invention the other works by Bach as much as these surpass the works of all other composers."

However, the recognition of the experts didn't bring with it popularity with the masses. In the early 20th century, Bach was still regarded by most musicians as "unnatural, too technical, complex, disordered(!), without feeling, melody or invention". If musicians refuse to perform music, the audience cannot hear it. Hard work and perseverance was needed on the part of a few enlightened performers to convince their colleagues and finally the general public of the high value of Bach's music. At the end of the 20th century, Bach was finally the most performed art music composer in the Western world.

The moral? Popularity comes and goes, quality is eternal.

Public acclaim is not a good measure for the evaluation of quality. It is not the reaction of the listeners, which is important, but what is actually expressed. The great religions have needed only one great mind to express divine thoughts to a few followers. Followers, who did not necessarily understand what was really meant. If the message itself is powerful, it will spread by itself, no mass medium or publicity campaign is necessary. Especially, it is not wise to focus on the artist. The art is the important thing.

As experts in music, it is our responsibility to help people have access to what we consider "good" music -- the music of the future. We do not need to sell it, or force people to accept it. If the music is good, it is enough to keep it available. Sooner or later, it will be known and loved. Remember, with even such great music as that of Bach, it took over two hundred years.

"The message is important, not the mailman." [Giacinto Scelsi]

One of the interesting aspects in the music of our time is the apparent progress in two opposite directions. On one hand we have the ever accelerating development of technology, giving us more and more sophisticated devices and methods to create and experience music of the utmost complexity. At the same time we have been fascinated by less and less complicated, even primitive instruments, and have been competing for who makes the most simplistic music -- with or without all the technology. Needless to say, testing the ultimate limits, whether of simplicity or of complexity, can offer an extreme experience, a glimpse of eternity.

We need novelties, but do not easily give up our customs. When the first people left Europe to settle

down in the New World, they wanted to take an essential part of the old culture with them -- harpsichords. An important detail, because without harpsichords, no Baroque music, without Baroque music -- no jazz! When the Old World had already left the Baroque style behind to move on to the Classical and Romantic eras, the New World paradoxically tried to preserve the old music with its steady beat, harmony-based ornamentation, sectional repeats, "swing", cadential solo improvisation ("breaks"), etc. Instant jazz - just add selected spices from Africa.

"To the true artist, the world is a harpsichord." [Gustave Flaubert in a letter to Ernest Chevalier 1841]

The rapid development of technology, which keeps bringing us a growing number of possibilities, easily fools us into thinking that we are pioneers in art, too. Actually it now seems that the pioneer spirit is exactly what is missing in the music of today. More stress is given to "accessibility" than creativity. What are all these powerful computers used for today? Mostly for boring repetitions of some simple patterns based on traditional music.

"He that knows little often repeats it." [Thomas Fuller]

Where are all the *artistic* innovations? The sequencers can easily and accurately play extremely complex, almost irrational rhythms, so why be contented with sixteenth-notes only? Practically any synthesizer can be tuned in a zillion ways, but only 12-tone equal temperament is used. With a sampler, any human or instrumental sound can stretch over seven octaves, so why be happy with three-note melodies? When you can use any available sounds and create new unheard-of ones, why concentrate on drums?

Why has, for instance, the fascinating world of micro-tonality been neglected? Late Byzantine music could divide the octave into 78 steps. In Italy, around 1600, keyboards with up to 36 micro-steps to the octave were built. Even choirs sang in micro-tones (and you know what I *don't* mean). Now, when we have all the tools to deal easily with perhaps the most powerful element of musical expression, why reject such a possibility?

True, more or less the same thing happened in the 18th century. A fascinating world of diverse possibilities was gradually reduced to rather mechanical rhythms and dull tonality. Shades and ornaments had to give way to bulky dynamics. In the 19th century, even the tunings became uniform: equal temperament, no more differences in character between keys. Uniformity rolled over diversity. We never learn from history.

In the 20th century, we travelled through music history backwards. First Romantic and Classical music, then a revival of Baroque, Renaissance, the Middle Ages, and finally, towards the end of the century, Gregorian chant became the greatest hit. When the music of the ancient Greeks, the little that remains of it, has been made a commodity, what remains? The music of the caveman. But hasn't that already been done on the popular music side?

5. COMPOSITION

When do sounds become music? When meanings arise in their relationships. In ordinary language, each word arouses at least two associations: 1) the onomatopoeic, how the word's sounds connect it to similar sounds through analogy, and 2) the symbolic, what it means based on the context in which the word has been used previously. This is how you learn to speak your native tongue. The meaning of a word is in the history of its use. When there is a contradiction between the two associations, a new dimension is born. Maybe we should call it poetry?

Having learned your native tongue, you tend to forget the onomatopoeic part of the words in the everyday use of the language. In the Finnish language, for instance, a most common word in tender poems is *yö*, "night". No problem for Finns; only for foreigners does the sound resemble the sound of regurgitation.

Speaking of Finnish, the *Kalevala*, our national epic, is to my knowledge the only national epic where the world is not ruled by arms, but by music. The greatest hero is not a warrior, but the one who sings and plays best, i.e., the wisest of men, because music *is* knowledge.

In music, too, you have both the immediate sound effects and their meanings, their tasks in the piece, the complex network of their relations to the other sounds. In electroacoustic music this duality is especially notable. Some composers bypass the problem by avoiding all structural work on the composition and leaving the sounds "as is" to be freely associated, structured, i.e., "composed" by the listeners. Half-composition? Yes, because leaving out the musical meaning, makes listeners associate on the onomatopoeic base only, like listening to an exotic language. Also, for different people, different sounds have strong non-musical meanings. For waiters, for instance, the sound of breaking glass; for a race driver, the sound of a traffic accident; for an ornithologist, birdsongs; for a fugitive, the sounds of war. Only a very skilful musical structuring of these sounds can cause such people to accept the result as music. That is your task. After all, what would you like people to do after hearing your music: think or applaud?

During the sixties, the decade of political engagement in music, some composers thought that the workers in a factory would enjoy contemporary music more if the pieces were based on the sounds of their factory. Of course, that was the last thing the workers wanted to hear during their free time. Even such a nice sound as birdsong, fully accepted in nature, is rejected by many people if they hear it in an "unmusical" composition. Birds do not know equal temperament or tonal scales. Therefore, they must be unmusical!

In composing, I find the hardest part to be getting into a state of mind where true creation becomes possible, a state of mind where each tiny detail in the composition really matters.

Never write a note, which is not necessary for the composition.

Writing music, as such, is not difficult. The decision between so many seemingly equal alternatives is. When in the right state of mind, you have no doubt about which one of these alternatives is the right choice. If even for a fleeting moment, you are totally aware of all aspects of music. Only this altered, elevated state of mind can give you the ability to judge what must be included in the composition, because it is a necessity, and what must be excluded, because it would be a disturbance. Many things are fine by themselves but destroy each other if mixed. Play a Bach fugue and a Mozart sonata at the same time. Try mixing ice cream and mushroom soup. The result may be interesting at best, but hardly something for one's daily delight.

"A poem is never finished, it is only abandoned." [Paul Valéry]

The process of composition can be seen as a series of selections, a chain of decisions. But as you cannot decide on the first note before you know what the other notes in the piece will be, you have to keep reevaluating all decisions all the time. Consequently, there is no specific point when the composition is "finished". It usually is when you have no more time to continue (a deadline) or when you are too tired (of the piece) to go on. The final deadline can be some previously agreed-upon date, but it is often only when the musicians are already on their way to the stage for the first performance. But I know composers for whom even the fifteenth revision of the piece is not final.

Rossini's advice to young composers was to never start writing the overture before the actual day of the performance, as there is no better inspiration than the enormous stress given by the anxious performers and producers around you.

We didn't start learning music -- and eventually composition -- because we considered it the easiest way to become rich, famous, and loved. Composing is for us an internal need, a desire to learn about the world through the intensive activity of making music. When composing, you have to open your mind to the most marginal impulses of the world, because the seeds for change hide in these most delicate signals. Capture them and you are preparing yourself and others for the future. And never mind the size of the audience. Jesus and Buddha didn't. Remember, only the message is important. Besides, to seek popularity

or the favour of the audience actually means to *deceive* the audience. Your audience always deserves more than it understands it could ask for.

"An artist who is so full of solicitude for the masses that he uses commonplace and banal means of expression is by definition not an artist but an illustrator, an arranger, a jingle-maker, a dispenser in the market place." [Julius Portnoy: *Music in the Life of Man*, 1963]

From the practical point of view, the path of a composition goes from the first abstract idea, to a musical idea, to a composition, to a written score, to an interpretation, to a performance of the interpretation, to a listening experience, to a reception, at best a comprehension, enlightenment. All this demands a myriad of choices. Already the choice of means of expression, the language to be used, is difficult. Then the means and the tools. We may talk of a *cello* piece, but we actually write for a *cellist*, or rather for the *aura* of the symbiosis between the player and his instrument. (This must be the reason that so many great pieces have recently been composed for such old instruments as the harpsichord, but hardly any for a synthesizer.) The notes we write (notation being a set of symbolic instructions for specific actions), we think of as signs to be interpreted and changed into actions by another human being. A fellow music-maker, who most probably has a different background, tradition, and way of thinking than we have, but should be able to understand the musical idea behind our network of symbols.

The backbone of Western music consists of compositions defined by symbols drawn on a piece of paper. Both the composers and the performing musicians have to agree on the right interpretation of these symbols. The symbols tell the musician what to do, but not much of what the result is supposed to be. This "what", most musicians learn through the study of Classic-Romantic music only. Unfamiliar with the great diversity of notation conventions in different epochs and styles of Western music, they often try to apply the rules of Classic-Romantic notation to their interpretations of other musical periods as well. Especially interpretations of contemporary music, which in itself is already a real cornucopia of notation systems and conventions. The notational symbols may look rather similar, but their interpretation must follow the meaning of the music and not the other way around. This is the most common difficulty in the interpretation of new compositions, even if the composer is present to explain his or her personal aims. This becomes critical in new orchestral pieces, where the musicians have no possibility of studying the composer's background and style, not even the score of the piece to be performed. The poor player hardly has time to learn his own part, so he just tries to perform the actions defined on the sheet before him. For the audience, whatever sound events the performers produce *are* the piece. Faults, misinterpretations, disturbing noises -- all become part of the piece. They trust the performer, and if they don't like what they hear, it is automatically the composer's fault (and the audience may even sympathize with the poor musician who had to perform an embarrassing piece).

Furthermore, during the act of notating the composition, the pure act itself, movements made, results seen, keep subtly changing the composer's idea of the final piece. The final result is a product of interaction between the mind of the composer and the means of expression. Working with electro-acoustic means is even harder, as we actually have to hear the intermediate stages of the composition, all those alternatives that we are forced to reject at the end, as only one can be chosen for the final "product". It is easy to lose original ideas in this process, where new, similar events keep taking the place of previous ones. In the same way, we find it hard to remember exactly how a family member we see daily looked last month, a year, ten years ago. Dangerous, if the composer starts to believe that whatever he has produced *was* his goal. Bliss, if the new ideas that replace the original ones are better, as is usually the case.

"If an artist knew what he intended to say before he did so, he would be expressing something that already exists in thought and therefore it could not be considered a creative act." [Julius Portnoy: *Music in the Life of Man*, 1963]

What we believe we hear or see is not so much what is really happening, but actually more what we *suppose* (by short-time memory and earlier experiences) should be happening. As the bandwidth of our senses is limited and cannot transmit that much information, we have to find the missing parts from our memory in order to have the full picture. Like what we saw just before, or what we usually have seen in a similar situation. (If we see a person in one place and the next moment in another, we suppose he has moved, although we haven't actually seen him moving. This self-convincing is what makes magic tricks

possible. And art *is* magic, isn't it?) Therefore, in a performance, every listener hears a different piece, depending on the listener's earlier experiences and current expectations. Something is heard, the rest the listener fetches from his own mind to complete the picture. Nevertheless, a great masterpiece manages to move most people. The experience is always different, yet always touching.

Once we think we know our goal, how should we notate it? This is partly a practical question, and depends on how widely in space and time you expect your composition to be spread. For your family, for tomorrow's celebration, or for the whole universe for all eternity? When Beethoven played his piano concertos, the page-turner saw "nothing, but... a few Egyptian hieroglyphs, wholly unintelligible to me scribbled down to serve as clues to him." The idea of his concertos being played by others after his death obviously never occurred to Mozart or his contemporaries either. Therefore, the solo parts were usually kind of memo lists for the composer-performers themselves. Only four of Mozart's piano concertos were published in his lifetime. What the pianists today play as "Mozart concertos" is partly what some obscure publishing editors thought was or wasn't missing in the solo part. Sadly, no one is allowed to change anything in these "holy scripts", so we haven't yet had a chance to hear what actually made the 18th century audience fall under a spell.

What then is a composition, if there is such a difference between the composer's and the performer's output? When a pianist "plays Bach", we don't hear the composition, but an interpretation, a "sounding description" of the original piece. The composition is and remains in the symbolic writing by Bach. Already, for Pythagoras, the highest level of music can only be attained through abstract thinking, not through sounds.

Having an historic perspective, we art music composers now tend to think we compose more for the future than for our own time. Therefore, we take good care of detailed notation and ample explanation. I really hope we are better soothsayers than the past masters. Who knows whether the 30th century will be interested in the 21st century's music, or in the historical on the whole? We just have to have *faith* in artistic quality as such, in the eternal quest for eternal values. Therefore:

1. Know history, to avoid involuntary copying.
2. Know the means of expression, to be able to do what you want, and not only what you can.
3. Have the patience to work out all details, as the true mastership is seen and heard in details.
4. Have the courage to remain utopist.

***) In the original lecture, pieces from the composer's *Musica ambigua* (1998) for baroque instruments were played between chapters.**