

## The Postdigital Manifesto

### How music takes place<sup>1</sup>

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1.  
It is almost time to think about the chorus.<sup>2</sup>

2.  
A friend exclaimed: "Always having to choose all music by yourself is like always having to perform all music by yourself."

3.  
A former pop star stated: "Recorded music is an art form that has reached the end of the road. It belongs to the 20th century, like fossil fuels. Maybe that is thanks to the internet. The net hurried the process that made recorded music something dated, something whose value falls like that of the German mark in the Weimar republic."

4.  
A lawyer made a closing argument: "It is like lying on your back, letting fried sparrows fly into your mouth, no matter whether you are hungry or not. The sparrows also lie around you in droves, for you to consume anytime you like, without any kind of sacrifice on your behalf being required. Of course a certain feeling of satiety arises."

5.  
"What kind of music do you like?" There was a time when this question was a given when new friendships were made. These days it is on the impolite side, or at best comical in its unstated reference to the record shelf in the living room. Today, we discover new music infinitely much faster than before the internet. We are familiar with much more of it, filling our pockets with amounts that not long ago were unfathomable. But how can we possibly choose? What about our ability to be touched by music, or more materialistically: our bodies' ability to be set in motion by music? Has it been heightened or reduced?

6.  
During the great establishment phase of the internet - approximately between 1995 and 2005 - one imagined a "digital world", into which existing enterprises could be moved. Then something happened: cyberspace imploded, blogging exploded. The interest in "virtual worlds" waned, the energies were redirected towards "social networks", the fuel of which is drawn from all the interfaces of the net to the material everyday life, from those things that happen at a certain time and in a certain place. Cultural phenomena exist in perpetual circulation between digital and analog, between universal access and temporary localisation. This is the point of departure of the postdigital perspective.

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<sup>1</sup> *Hur musik äger rum*. The Swedish phrase "Äga rum" means to take place, but the literal meaning is to own space or to own a room.

<sup>2</sup> This Swedish proverb means to think about returning, going back. It originated in a 19th century student song.

7.

For as long as we have been able to fix sound as digital information, we have been able to materialise the digital information as a postdigital situation. That is the chorus of which it is time to think. Not because this would be something new, but because we, during a short historical period, were blinded by the digital to the extent that we took the postdigital for granted. Now we feel a countermovement. This is most clearly noticeable in our relations with music.

8.

Music has always sprung from abundance. Among all the thinkable ways of squandering the inevitable abundance of energy - the part that cannot be stored to secure a societal good or be subjected to a logic of aims and means - music is one of the most marvellous ones. The energy can be channeled in sound in infinitely many ways, but music's ability to touch people has always been conjoined to the limits of how the abundance is realised. In order to hear certain music, one has had to visit certain places, or save money in order to buy certain objects. The availability of music has in different ways been characterised by a scarcity that has made the musical experience exclusive.

Each time we are touched by music we exist in a situation where an infinite abundance of potential - possible songs, sounds, notes, rhythms, movements - is materialised within the boundaries of certain limits, among these the limits set by time and space. The digital has in no way made music limitless, but rather increased the importance of certain limits at the expense of others.

9.

We may experience a constantly increasing musical abundance in at least two ways. First and foremost through the music that is actually sounding, accompanying an ever greater part of our waking hours. Often our choice is not between music and silence, but between either having music forced upon us from the outside, or enclosing ourselves in the voluntary bubble of the headphones. The tendency to omnipresence, the emergence of music as a constant background, is not new but a result of the continual development of sound media during the whole of the 20th century.

Even more tangible is the tendency to abundance on that second level which concerns supply, choice and availability: to anytime, anywhere, with only a few clicks, be able to listen to anything that has ever been recorded and published. Digitalisation has in this second sense certainly meant a paradigm shift for our everyday relations with music. Each will have to decide for themselves what their symbolical turning point is. Let us preliminarily suppose that something happened in the middle of the 00's, around year 2005.

10.

Today we have immediate access to infinitely much more music than we could ever integrate into our time-limited lives. Choice is thus inevitable. Our techniques for managing abundances of this kind are in many cases immature and malleable. So far, we continue to rely on the filters of the 20th century to a high degree. They were developed for the sake of creating order around the small oases of exceeding availability, in a climate otherwise characterised by scarcity. Technically speaking, the scarcity was maintained on one hand by the limited frequency space and strict regulation of the airwaves, and on the other hand by recording media that yielded distinct units, each of which implied a certain cost and occupied a certain physical space. The radio stations and the record companies, different in kind but in an increasingly sophisticated interplay with each other, were able to keep the

choices of listening at just that level where all imaginable varieties of recorded music, wide as well as narrow, got their exclusivity and thus also an emotional and economic value. Digitalisation in itself did not upset this order. On the contrary this music economy reached its lucrative peak during the 1990's, with the early-digital medium of the CD. However, when the digital machines were connected in global networks and information from the CDs was gathered on hard drives, the oases did overflow.

11.

Let us with our mind's eye take aim at a point of singularity: the total abundance. The point at which we anytime, anywhere, in any context can choose to listen to any prerecorded music we like. We are not there yet, but for a few years we have been surrounded by digital storage media that make it possible to imagine this point. The curve that shows how much can be accommodated by pocket sized cheap storage media soars exponentially. The day before yesterday we measured our hard drives in megabytes, yesterday in gigabytes, today in terabytes, and we are steadily moving towards the day when we will be carrying petabytes around. At some point there, storing all of the music that has ever been released in your pocket begins to become a practical possibility. We seem to have about a dozen years left, but what we ought to note is that the tendency affects us already today. The number of people who in practice will want to have this hypothetical pocket memory is, however, less relevant. The singularity point has been determined, and we should measure our thoughts about the future of music against it.

A consequence of having all the music that has ever been recorded on one's pocket memory is that it can be copied to another pocket memory, from person to person, without any practical possibility of external control. An even more important consequence is that the immediate availability, in one way or another, changes our relation to music. If it heightens or reduces our ability to be touched by music is, as of yet, an open question.

12.

The abundance is an abyss. We all know what it is like to sit paralysed, staring down into an all too large playlist. "16381 objects. 63 days, 10 hours, 38 minutes, 19 seconds total time. 131.92 GB." The same feeling also arises when we use a service where the music is streamed directly from a central server, where one only has to search and push the play button. In both cases we are given options verging on the infinite. All of the alternatives are equally close at hand.

If the archive does not consist of more than 16381 tracks, there is still the possibility of pushing the shuffle button, followed by a number of disinterested skips forward, until an affect that can indicate a direction for continued listening occurs. But if one actually has access to all music that has ever been recorded -- what does it then mean to be able to put the headphones on and listen in shuffle mode? A carefree affirmation of total randomness? The question is if the sounds that would be produced could even be classified as music. Two people listening in shuffle mode out of a collection of all music that ever has been recorded would very likely never find a common musical point of reference.

Almost any selection of songs, as long as several people have it in common, increases music's ability to touch. With the possibility of anytime, anywhere, throwing oneself into an undifferentiated sea of all music that has ever been recorded, with the constant temptation to skip to the next track, comes the risk that all recorded music becomes equally uninteresting. In the total abundance, the shuffle function represents a total nihilism.

13.

Ten or twelve years ago: it is not necessary to go any further back in time. The feeling of the little plastic bag dangling from one's hand, coupled with a feeling of eager expectation,

on the way home from the record shop. One opened the door, stepped forth to the stereo, and listened to the record from beginning to end while reading the booklet. The ritual was carried out even if the music turned out to be a disappointment. If the record on the other hand was a lucky draw, it was soon copied and could be given to a friend in the form of a cassette tape, a minidisc or a burned CD.

The happiness of giving away selected music as a gift lived on for quite a long time, a good few years into the '00s. Then something happened: it no longer felt generous to give away a disc with music, but rather demanding in a rude way. Like pushing the music down somebody's throat when a suggestion would have been enough. Parents continue to give records as christmas presents to their children, the children smile politely but quietly wonder why the parent might not just as well have given a verbal recommendation. The shift did not happen simultaneously for everybody, or overnight. The following may serve as an acid test, though: when one no longer experiences that recorded music has a value as a gift, the digital experience has forever changed one's relation to music.

Without a doubt, the limited extent of the personal record collections contributed to making recorded music more exclusive and thus more valuable. But the appropriation of space was as important. Some records were, purely materially, closer at hand. All of them could not be in the player at the same time. In order to hear new music, a disc had to be replaced with another. This didn't constitute a barrier, but still, a small obstacle to accessibility - one of many grooves in the landscape of listening.

14.

In other words, some kind of devaluation has happened, but what is it that has been devalued? This question would have been easier to answer if it were the case that musical experiences generally were on their way to losing their value to people. Then we would be able to proclaim the historical end of music, in line with the aesthetic-philosophical idea of the end of art, which during the latest two hundred years has recurred in ever new versions. The sheer thought of the end of music is absurd, however. The same applies to the supposition that digitalisation could cause some kind of general lack of music.

On the other hand, history teaches us that music can be valued in radically different ways depending on the material limits of when, where, and how it takes place. It has often taken time to create concepts that capture people's new relations to music. Today's attempts to, with political means, reshape the digital infrastructure are to a high degree motivated by the need to save music. However, this is done starting from a valuation of music that is founded on the idea that the individual experiences a scarcity in his access to recordings -- one of many possible ways to create exclusivity in the musical experience.

Maybe one could avoid serious mistakes by extrapolating from the problematic of abundance? Let us imagine digitalisation proceeding all the way to the point of singularity where we feel the vertigo of the infinite archive. After having accepted the abundance as a fact, we may once again turn our attention to the postdigital situations where music occurs. The art of creating meaning from abundance must be refined, but quite a lot has already been achieved. Indeed, all music is not equally uninteresting. The latent nihilism of shuffle listening never tips over into complete indifference. The landscape of listening has not been completely evened and will never be, even though some times of exhaustion can make it feel that way.

At other times, music succeeds in setting bodies in motion in ways that might be even more powerful than before. Obviously, other ripples than those based on limited access to recordings exist. The loss of value in one place implies an escalation of other values.

15.

How does one know what one wants to listen to? So goes the persistent question of unlimited availability. Automated recommendation systems are often brought to the fore as

standard responses. Instead of always choosing music by ourselves, we can entrust the choice to software that finds patterns in the statistics of the former musical choices of ourselves and others. Then we are offered a personally customised radio station that often turns out to be astonishingly good at opening our ears to music we didn't know that we liked. However, these systems are at a primitive level. They have a functionality scarcely different from that of the net bookshops: "Others who bought this book also bought..." In other words, everything is centred on the individual, whose preferences are summarised in a statistical profile. Admittedly, the profile is changed when new data is added, but perfection becomes synonymous with stabilisation, with no room for sudden affects. The software measures the distance between different individual profiles, and between the roughly neighboring ones an exchange of recommendations takes place.

What evidence is there for musical taste residing in the individual? Musical taste is hardly stable. On the other hand, it is skewed by the sudden relationships that our bodies enter into. What we call "personal taste" might better be described as an aggregate of super-personal and sub-personal. Everyday musical choice is skewed by the time of the day, the day of the week, and the season. It is affected by the weather, one's metabolism, possible intoxication and how sensory impressions almost randomly can give rise to associations to earlier musical experiences. Above all, the musical choice is skewed by other people in the room, by our relations to and desires for them. It is never the case that a number of people who congregate in one place bring with them each their own musical taste and simply merge these. Ideas about direct democracy cannot be applied to the practical situations that demand a choice of music.

16.

The history of musical mass media - from sheet music, via vinyl and radio, to the digital - is not just a history of increasingly rapid delivery of ever larger amounts of music to a mass audience. It is also a history of the audience delivering ever more statistics back to the record companies, which has determined what music was to be marketed and how. The feedback has gradually accelerated. There was a time when it took months before the companies could summarise what had sold best in the shops. As time went, the companies formed cartels that could compile common hit lists, which were given ever increasing weight. At first, the hit list was released every fourteen days. In connection with the breakthrough of the CD and the increase in computers' calculation ability, the frequency doubled to once per week. Around the end of the century, record companies could, thanks to the internet, collect sales statistics from the shops every day. At that time, an abundance of customer survey companies had also been formed, who, by making phone calls, established the listener numbers of radio stations and what songs were most appreciated.

Automatic feedback is not possible from radio receivers, precisely because they are pure receivers. On the other hand, extremely fast back-reporting occurs through various digital connections. The velocities have reached a point where a larger number of non-individual variables may be extracted from the statistics. Starting from these, the automatised selection can be developed into vertigo-inducing directions. If one formerly was able to compare sales week by week, it is now possible to compare listening hour by hour. Statistics from various open sources on the net show how certain artists enjoy an even popularity throughout the week, while others show extreme peaks during weekend evenings. It is possible to investigate how the music listening is correlated with the seasons, the weather or the stock markets, as well as with ages, places and social contexts.

The limit is set by what we perceive as violating our integrity. If the microphone in one's mobile phone were to always register what music is being heard in its surroundings, as well as the exact position in space, it would be possible to identify patterns for what

constellations of people prefer what kind of music. Automatic choices would then be much more on the mark than they are with today's narrow focus on individual preferences.

17.

Even if the software based recommendation systems of the future will be unable to consider all sub- and superindividual factors - at least as long as they are not in cahoots with a draconian surveillance state - there is no doubt that compelling results could be achieved simply by introducing time and space into the equations. What somebody is listening to at three o'clock a Saturday morning would then not just be attributed to the statistical body of an individual, but also contribute to building a musical profile of that point in time. What somebody is listening to at three in the morning on a Saturday would then not only count towards the statistical body of an individual, but also contribute to building a musical profile of this time of the day. The active music choice at an after-party may recur as an echo exactly one week later at a completely different after-party whose participants prefer the passive musical choice of the automatised radio. One can imagine how, in a similar fashion, the music listening on portable devices of innumerable individuals is linked to its geographical positions, so that places in the city, too, can acquire musical profiles. In both cases one may expect compelling musical contagions, where small tendencies become self-amplifying once people discover how their listening automatically influences the listening of others.

If one is aware that one's own consumption of music simultaneously is a production of statistical patterns, listening acquires some of the traits of a low-intensity performance. This phenomenon can be observed already today on those sites where one can have one's music listening registered as an individual profile. The extreme version occurs when certain users choose to let the computer stay on, playing the "right" music even though they themselves are absent, for the sake of generating an attractive personal profile. If a place specific radio based on listener statistics from mobile devices becomes popular in the future, one may imagine a form of musical graffiti emerging. Temporary swarms of amateur DJs would actively start playing certain music in a certain place, possibly without listening themselves. Other people who passed the same place with place-specific radio in their headphones would be infected with the contagion. As a renewal of the link from music to specific places in the city, this is quite an attractive thought. Granted, it is difficult to imagine a practical execution of this that does not bestow enormous control on a small number of companies that collect and process the statistics. Whether voluntary surveillance of the statistics is desirable at all can be left open. In any case, even the most advanced methods for automated choice rely on people somewhere choosing the music of the moment. The obligation to choose cannot be abolished.

18.

Different kinds of automated selection will constitute an increasingly necessary aid in navigating the digital surplus. The realisation of this is too important a question to be entrusted to a small group of technicians, or, worse, to a single dominant company. The design of the software will to a great extent determine which artists will be able to reach an audience. One system might lead to musical homogenisation and control, while another might lead to greater diversity. Today one can choose from a handful of services, either in the form of personal radio via the net, or as recommendations among the bewildering amount of mp3 files that already exist on one's own hard drive. From now on, it is likely that the recommendation systems will become more numerous. Here, too, the options tend toward the bewildering. Instead of constantly having to choose between thousands of songs from our hard drive, we have to choose between almost as many radio stations, each and every one customised for us personally, that is, for some of the aspects that are assumed to constitute our person. At the end of the day, it turns out that even the most

advanced digital programs for automated choice are nothing more than different ways of using the same raw materials, namely postdigital choices made by people.

The promise of machine selection's ability to replace human selection comes across as an updated and more exuberant variety of an older fear. During a big part of the 20th century many feared that the human being might be rationalised away from music. We would listen to a computerised product, produced at the push of a button and without any musical instruments. This conclusion appeared logical against a backdrop of concrete experiences, from movie theatre musicians being made redundant by movies with sound to drummers being made redundant by drum machines. Even the composition of melodies would slowly but surely be taken over by computers. All humans would have to do would be to push a button.

We certainly obtained marvellous music machines in due course, more advanced than anyone in the 1950's would have been able to imagine. But not with a single button, rather with so many buttons and parameters that the person who mastered the machine was elevated from a simple technician to being considered an artist. It happened to the studio technician who became a music producer, it happened to the disc turner who became a DJ.

The moral that ought to be learned from 20th century music history is that machines do not replace people. On the other hand they influence what human efforts are valued. There is hardly any need to fear that the human will be expelled from music this time either. But neither should we rely on machines saving us from the dilemma of surplus. We still need to hone our human ability to make choices and stand by them. Trying drastic methods might be worthwhile.

19.

No Music Day was announced as a direct response to the experience that the digital surplus has watered down our ability to be touched by recorded music. The observance would be celebrated five times: on the twenty-first of November 2005, 2006, 2007, 2008 and 2009. All who were interested were invited to actively abstain from all kinds of music. Not as asceticism or a protest - comparisons to the consumption critical Buy Nothing Day are wide off the mark - but as a calibration intended to increase the receptiveness to music during the other 364 days of the year.

For the city dweller avoiding music is easier said than done. Going to a cafe or a tavern usually becomes impossible. Public transport, too, is dangerous, considering the number of people who unabashedly make their fellow passengers listen to loudspeaker music in the form of ringtones. No Music Day becomes a day of controlled paranoia that immediately creates an increased feeling of place - partly of what places force us to listen to music, partly of how our own desires for music are place dependent. A walk without a soundtrack works fine, but inside the doors of the home, or in other environments that have been overcoded by the habit of perpetual background music, frustration grows. The brain reinterprets the sounds from hinges and plumbing as fragments of music, which, in the absence of other stimuli, begin circulating as inner choruses. All of this is part of the calibration that shows its result when the fast is later broken: the music rings more beautifully on the twenty-second of November.

We were a handful of people who had avoided all contact with music during the entire Friday. In the evening we met in an apartment south of the city. Silent movies came from a projector, wine from a box, and we laughed at the stubborn impulses that said that something has to be wrong with a party that has no music. Still, it became a few hours of a pleasant change from house parties with edgy queues to the PC.

When the clock struck twelve, the experiment was over. We now had access to all the music we could dream of. The only question was where in this infinity the reentry would happen. Everybody sat immobilised. Somebody had to take charge, but nobody could

bear the responsibility. After a day without music, giving the mingling a preprogrammed rhythm once again is no small thing.

The situation can only be described as an ethical densification corresponding to the singularity of surplus. Going directly from no music to prefab background music would be abuse. The return to music demanded a building up from zero. We looked for neutral sounds. Unfortunately the computers of today no longer have a basic beep, just a long list of different rings and jingles to choose between. Sine tones felt safer. Looped in layers on top of each other they slowly broke up the atmosphere without crossing the boundary to music. Time passed. A very short disturbance in the sound carpet was heard, a click or a buzz. The source of error may have been in a computer program, in a loose cable, or in a burst speaker membrane. In any case, somebody had it within reach and followed his or her curious instinct to see if the disturbance could be repeated. Through the repetition, the soundscape got a tempo, arbitrarily set by an error source that was only partly controllable. We were thrown onto the doorstep of music. No intentional act and no words could have taken us there. Only chance could enable the repetition that established a new ethics, where the one who had carried out the repetition had the unstated responsibility of guiding us further in among the MP3 files. From something utterly subdued a careful escalation to more rhythmic music happened, which we, inexplicably, could experience in synchronicity with the silent movie that happened to be shown. In the morning we returned homeward with the feeling of having witnessed an eruption of something violent.

20.

The feeling of common presence is intimately connected with a silent agreement on responsibility. The music experiment that just was described showed that under certain conditions - delimited in time and space - it is possible to establish a feeling of mutual responsibility so strong that all action is temporarily suspended. Only by opening up for unintended and unexpected sounds did it become possible to take the steps that let music reclaim the room. If this is allowed to serve as an example of successful intensification of musical presence, the question of who should be credited with this is raised. Was the result achieved by those digital recordings in MP3 format that were eventually played, and by the artists that had been behind them? Or by the person who eventually assumed a DJ-like role and selected just these recordings? Or perhaps by the very room, with its sound system and furnishings?

All of these factors were necessary, but none of them was by itself sufficient to bring forth music at that particular moment. The entire process of people and things interacting through a mutually emerging distribution of responsibility is decisive. A process which in this case included a musical silence, not unlike how the pause in the middle of a song may be its peak. No Music Day can even be understood as a pause in music, elongated along the time axis from a second to a day.

The city, on the other hand, is filled with spaces where music is played routinely without anybody present taking on a musical responsibility towards the others. Such spaces make themselves and their visitors replaceable. Through the cannedness they receive a placeless character. The model case is the standardised hamburger chain. Every restaurant looks the same, and is filled by music chosen by an anonymous actor based on statistical data about a target group and its musical taste. If we feel awkward in such places, silently damning the artists who recorded the music lies close at hand, as if the cannedness were inherent in the songs themselves. But this is only because nobody else can be held responsible. The same song receives a different meaning if it is played in a room where somebody takes responsibility for its being played. The room then becomes another type of space that invites those who are present to evaluate the music and make a choice, even if this is just by leaving.

The question of music spills over into ethics here. Responsibility cannot be defined as an isolated action based on a predefined morality, but rather as a sensibility of how one's own actions resonate with those of others. The thought of the "common good" is an absurdity in musical contexts. Nobody can claim that it is in everybody's interest to let an A minor chord be followed by E major rather than G major. Neither can an automated choice of songs that has been statistically adapted according to the taste profiles of everybody present be said to offer a better music experience than when one of those present forces his choice onto the others.

On the other hand, the distinction between good and bad timing exists. Insightful improvisers know that the real challenge is not in playing the right notes, but in sensing exactly when it is time to end the solo. Different kinds of musical situations are structured by different norms for responsibility taking. This is true within an ensemble, where the responsibility for the music is more mutual, if rarely evenly distributed, as well as between an artist and an audience, where a minority takes on a responsibility towards a majority. What we call "live music" is simply those situations, delimited in time, where we can lean against a prevalent norm as to who is responsible. Since a few decades ago, recorded products, too, can become "live" again, thanks to the DJ function. From initially having submitted to the preexisting taste of the audience, the DJ gradually assumed a responsibility, a kind of doubling of the artistic responsibility. Thus an incredible production of presence was enabled. The postdigital culture of our time awaits the invention of new positions of responsibility.

21.

Music takes place<sup>3</sup> in the field of tension between the two poles of responsibility and irresponsibility. When nobody taking any kind of responsibility for what is played is present, it is hardly possible to say that music takes place. Then we would rather say that the place is filled by canned music. On the other hand, if everybody present takes full responsibility - which is a next to hypothetical state of affairs - nobody dares to strike a single note. Silence, although a musical one, prevails. Collective improvisation may aim for this latter point of complete responsibility. If the interplay at some point reaches all the way there, it means that the song has reached an end and all who are present hold their breath in reverence.

The impulse to strike a note, to begin a new song from a state of silence, presupposes, on the other hand, a step back from one's own responsibility. The first phrase from the saxophonist, the first beat from the drummer, the first track from the DJ - these acts can never be justified in themselves; they are inevitably clichés. For music to be able to take place, the one who initiates it must temporarily hide behind something that others may relate to. Because every genre of music is laden with numerous associations, there is much to hide behind. A musician may hide behind the name of a famous composer, behind a stage dress or behind a myth of themselves. Initiating music is always putting blame on others, if only for a moment.

The entry of responsibility into the room does not happen until one human imitates another. The body that falls into a rhythm, or the voice joining a chorus, are examples of this. The cliché that initiated the music always houses a surplus of possible associations, of which only a small number may be imitated within the boundaries of a time limited event. Repetition is therefore not just something that creates clichés. Every repetition is a choice and a difference that can make the music take off from the level of clichés.

The morals of musical situations can be favourably applied to politics, which, as we all know, is very much a question of responsibility. Around the end of the 17th century the

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<sup>3</sup> *Musik äger rum*. The Swedish phrase "Äga rum" means to take place, but the literal meaning is to own space or to own a room.

parliament and the concert hall appeared in parallel as the political and musical temples, respectively, of the new bourgeoisie. Philharmony (conductor/orchestra/audience) is a mirror image of democracy (head of state/parliament/citizens) - both precipitate an idealised distribution of responsibility, with a promise that all dissonances will be resolved in a harmonious ending chord. More efficient mass media changed the preconditions of politics as well as of music. During the 20th century, they served as higher level filters that sifted through the surplus of opinions, making the remaining selection possible for the individual to survey. Since some time around the end of the 20th century, however, mass media are not able to maintain this role very well. The task of constructing new techniques for making selections from the surplus of opinions is left in our hands.

What we call politics exists in the field of tension between the two poles of responsibility and irresponsibility. If nobody takes personal responsibility for their actions, it is hardly possible to speak of politics. Rather, it is a case of pure administration. The greater part of what is called politics in mass media is, accordingly, not worth this name, because its practitioners systematically blame ghosts such as "the public opinion" or "the economy". A situation where, on the other hand, everybody assumes complete responsibility, where everybody feels as an accomplice in the ways of the world, can only be described as a revolution. The revolution should in this case not be understood as an explosion of action, just as a trembling halt. Nothing happens, nothing is planned, no work is carried out - the old syndicalists' idea of the general strike. A singularity that lies outside politics, but which still, after having ended, hands back a new politics with new points of departure.

The revolution then appears as the result of an infectious feeling of responsibility. Among self appointed revolutionaries, on the other hand, it is common to wish to only point to others' responsibility for the misery. "You are evil, hence I am good": the basic formula of *ressentiment*. The disavowing of responsibility turns music into muzak, and leads to the replacement of political action with a banal malevolence. If the opposite of this may be called revolution, no party agendas can point the way there. However, something revolutionary exists in the musical insight that responsibility is something entirely different from subordinating oneself to "the common good".

22.

First of May<sup>4</sup>. Every year the same things are heard. "Holding demonstrations is archaic," the detractors yell. "Why take to the streets to proclaim one's opinion, now that digital media can reach so many more?" This argument presupposes that demonstrations are a kind of mass medium intended to communicate a message to an outside or to a superiority. Usually, the demonstrating groupings themselves reason in the same way. Either they nurture their megaphone fetishism, or they direct something intended to look good in front of the TV cameras.

From a postdigital point of view, the first of May appears entirely different. A demonstration is not primarily a mass medium. It is a method that strives to manage a surplus of opinions by making a choice that is founded on presence in a space. Text based politics - that which is carried out at annual meetings, opinion pages and net forums - does not demand the same priorities. It is always possible to squeeze in an additional formulation for the sake of appeasing an external or internal opposition. Demonstrations, on the other hand, are limited in time and space. One slogan at a time, one flag per demonstrator. In this way, collective priorities are forcibly extracted, and a common style may be confirmed.

However, the politics doesn't lie just in or even primarily in the colours of the banners or in the words of the speaking choirs. The organising is in itself politics, which becomes clear in the question of the speaker membranes. Are megaphones present, or is it up to

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<sup>4</sup> The International Labour Day is observed on the first of May in Sweden and many other countries. On this day, workers and labour unions traditionally hold demonstrations.

enterprising demonstrators to initiate slogans? No matter what verbal messages are being communicated, megaphones turn a demonstration into a manifestation of dictatorship. Somebody literally dictates a message, others repeat.

Everything is taken to its extreme in the use of music in political manifestations. On one hand there is the nurturing, particularly on the first of May, of traditions with legacies that go back to the time before the speaker amplified music. Wind orchestras and choirs perform a dialectical music: from darkness we ascend towards light, through dissonances that are resolved in a harmonious ending chord. Every piece that is played or sung has a title and some form of message aimed at reason. The former bears a military legacy and is constructed according to the principle of division of labour, with each individual being a specialist in the use of a certain tool. The latter stages a humanism that has the naked human voice as the starting point of politics.

Drummers, in contrast, mobilise the body in a way that does not require a detour through reason. The rhythm may mobilise to dance or march, but can never take aim at a dialectical ending point. A melody has an ending point, but a rhythm just continues to be repeated. Between different percussionists there are big differences in amplitude, but no hierarchy between lead part and backing part, as in the melodic music. If the politics of drums has a place for a utopia, it already exists, in some sense, in the way of mobilising a collective.

Demonstration arrangers are rarely better than shop owners when it comes to the use of music. Awkward attempts to play "something for everyone" result in a soup of canned music without taste. Movements that have the ambition to include people of different ages and backgrounds too often wrongly believe that music can be used to include, without realising that music always excludes to exactly the same degree.

During the summer of 2008, the self governing house of culture *Cyklopen* constituted a vital scene for a number of musical subcultures in Stockholm. On different evenings, different music was played to different audiences. The following winter, *Cyklopen* was burnt to the ground by nazis. A well attended protest manifestation followed. Even worse than the biting cold was the attempt to integrate all of the musical plurality that *Cyklopen* had provided space for within the confines of a single event. From the speakers now one kind of music, now another came in rapid succession. Instead of satisfying everyone, this satisfied no one.

To put it briefly, musical direct democracy is a fanciful goal. If all who are present may take turns in selecting songs, serial dictatorship is a more appropriate concept. No grand musical experiences can originate in this. We prefer to hand the responsibility to the DJ as a local music dictator - but also to be able to go to a different venue, where a different DJ dictates the music of the moment. A better alternative to serial dictatorship is a plurality of parallel dictatorships, spread out in space. Hence the nourishing effect that abandoned factories and occupied houses usually have on the musical life of a city, given that the music is not reduced to a simple means of political propaganda. Music in the postdigital opens up questions of the ownership of space all by itself.

23.

We procured an old city bus for ourselves. Without knowing anything about engines, we begun renovating it for a trip. Inside the bus, the way that digitalisation has increased the importance of physical presence became unusually noticeable. At the departure, twenty-three people were ready to take their seats and sacrifice their time. No traveller knew all of the others in advance, but everybody knew some. The inner relationships of the group had been maintained primarily through the internet. Out of the overlapping bonds of friendship of the net, a delimited group was crystallised for the sake of letting the friendship take place in the postdigital. If we grow tired of a conversation on the net, we only have to

switch to the next window or leave the computer. A bus on the road, on the other hand, is impossible to leave. Thus, presence reaches a greater intensity inside it.

Presence is at the service of selection, and corresponds to needs raised by the digital surplus of music files as well as of friends. The lists of one's friends can seemingly become arbitrarily long on the networking sites. Everybody turns out to be indirectly connected to everybody else through a few steps of friendship bonds. Digitally communicated friendships have enormous potential, but friendships begin to take place only in the postdigital, driving selection to its extreme. Physical presence does not allow us to simply escape to the next window when a conversation starts to become dull. We may relocate to a different place for a different conversation, but then we are not typing on a blank sheet, as in a newly opened chat window; rather, we must relate to what is already occurring in the new place.

Something similar applies to cassette players. If we tire of a song and turn the tape over to the other side, or fast forward, we are thrown into the middle of a new song. We are spared the parade of interrupted intros that characterises digital skipping.

The cassette player introduces a certain degree of unpredictability in music, unpredictability of a different kind than the calculated randomness of the MP3 player's shuffle function. When a new tape is inserted, nobody knows exactly what will be played, but we may assume that it will be music that somebody around us liked perhaps ten or twenty years ago. At least when the available music lies in a bag, stored on a hundred mixtapes that were found in closets and garbage collection rooms. Precisely this was the case in our old bus, with a half explicit agreement that no digital music players were to be available. This decision followed from the simple fact that we would be unable to have access to the internet during the journey anyway. Sometimes there is a point in deciding what one wants to achieve in each given situation: maximal information, or maximal presence? We opted for the latter. For the duration of a summer week we drove from Sweden to Italy, as a slowly chugging laboratory of materialised internet culture.

Crossing the Alps with a city bus from 1977 may safely be called a high risk project. Neither is it safe to let twenty-three people who thus far mainly mixed via internet communication spend a week together in such a limited space. In particular when the division of responsibility is not clear in advance. Such lack of clarity may on some occasions lead to the presence being watered down, and the group dispersing, while on other occasions there is a material enclosure that keeps the event together, so that the question of responsibility becomes inevitable and the presence is escalated. The presence - and with it the ability to be disappointed, enriched and touched - is at its very strongest if it is time consuming, hard or even impossible to go to or from the place. The more we experience music as the result of digital skipping from track to track, the stronger the opposite experiences that involve hardships in going to the place where the music takes place become.

Nearly every limit of the accessibility of music may, in the postdigital, become a resource for the production of presence. The room<sup>5</sup> that only has space for a certain number of people. Time that is insufficient to hear all the music that could possibly be heard, which forces a selection that in turn calls for responsibility. The loudspeakers that are unable to deliver sound outside a certain amplitude and frequency range. Instruments with no more than thirty-two keys. The policeman who orders the party to stop. The back that can carry no more than a few kilos of vinyl. Geographical distances. Storage space. Fuel. Endurance. All of these limits to how music may take place are what the postdigital may brace itself against to create memorable events.

The family that is seated in the sofa, watching a dance contest, exist in the postdigital as much as a thousand dancing people in a factory hall. Both of these cases are musical

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<sup>5</sup> *Rummet* has the double meaning room and space.

events that produce presence in relation to their limits. If the presence is stronger in the factory hall, it is not because a larger crowd has gathered, but because the crowd has come closer to some form of common experience of limitation. Correspondingly, if the presence is more faint in the TV sofa, it cannot be blamed on just poor programming. The bus that we travelled with was filled with a presence that was something more than what the twenty-three passengers could offer. The presence was specific to the meeting of the two technologies bus and cassette tape.

This method may, on certain grounds, be accused of nostalgia. According to the logic of transportation that is omnipotent within tourism as well as within the world of art, one travels in order to achieve a presence at the final destination. The travelling itself is reduced to precisely a transport distance between the points. Thus, flight travel becomes more rational than bus travel. According to the hi-fi logic that the electronics industry has a stake in maintaining, sound quality is a simple question of better or worse. In light of that logic, cassette tapes are unambiguously worse than digital sound media.

The question is why listening to cassette tapes is considered traditionalist, while starting rock bands is not. The record companies appear to be in the habit of staging something that is supposed to represent a return to the roots of rock music every few years. Granted, the rock band, too, constitutes a set of limits of what may be done musically. But nothing says that its production of presence succeeds in exceeding what others can do with a cassette player and a bag of cassette tapes, in the right place at the right time.

Precisely because the bus trip so clearly assumed common experiences of digital surplus of information as a starting point, the postdigital appeared especially clearly as a contrary movement. The experiment taught us unusually much about material limits - about big and small companionships, about high and low frequencies, about the future and the past.

24.

"Scalability" is a well known technological ideal to developers of digital solutions. The aim is to make what is coded work as well on a large scale as on a small one. A web service needs to be able to go from ten users to ten thousand without breaking down. In the postdigital, however, another ideal must reign. A collective practice can never be scalable without limits. If the group becomes too small, activity ceases and the members wander in other directions. If it becomes too large, the trust and feeling of responsibility that is necessary for a common choice to happen collapses. When things such as music festivals are spoken of, the ideals of large scale and small scale are alternated between. Middle scale appears harder to conceive of as an ideal.

The best size of the group for a given context depends, among other things, on the shapes of the space<sup>6</sup> and the duration of the event. A series of experiments led to the curious conclusion that at the times when the temporarily closed fellowships work best, strikingly often the number of participants is a prime: 7, 13, 17, 23, 47. For the group to function well, it is also necessary to have a well proportioned degree of uncertainty about what keeps it together. If all present are in complete agreement as to what taste they share, for instance at a nostalgic happening where a dear old idol makes their comeback, there is hardly any selection worth the name. Nor does a selection happen in the opposite case, when the participants completely lack common musical points of reference. This, too, must be reckoned with in the balancing of large and small scale.

The balancing is in principle the same for communicated togetherness in the digital (chat rooms, forums, lists) as for togetherness made actual in the postdigital (meetings, parties, festivals). If the group grows so large that mutual trust no longer can be maintained, one or a few must take responsibility for making a choice - it might be keeping irrelevancies out of the discussion or choosing what songs are to be played. Such things are inevitable.

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<sup>6</sup> *rummet*

Still, it is possible to achieve a high degree of participation in the choice that drives a larger development, for instance the growth of new musical phenomena. A condition for this to happen is a myriad of overlapping companionships. They should be sufficiently large and have the right life span for cultural contagions to be passed on, but at the same time small enough that a mutual trust can be maintained. Recommendations are passed on, filtered in step after step in chain reactions. Thus arises something that resembles a musical democracy - even if it is based neither on majority decisions nor on representation. And thus are, to some extent, the record companies and radio stations that during the 20th century took on the main responsibility for musical choice made redundant. Thus good conditions are created not only for new musical phenomena to reach a broad audience, but also for old music to be made current anew. Thus practices that give meaning to small excerpts from the large abundance of recordings are established, beyond journalism's constipated hunt for ever new genres to label. The fellowships that can achieve this today are inevitably dependent on an intense use of the digital media that have, in principle, unlimited reach - but the selection itself still happens in the postdigital moment where the music is realised within a limited time span, in a limited space, and among a limited number of people who are present.

Somewhat simplified: there is a trust that is possible neither in a concert hall or around a kitchen table, neither in the so called public sphere or in the purely private, but only in the grey zone in between. But musical life must relate to judicial and bureaucratic conventions that deny the existence of grey zones. Copyright as a system, and particularly the copyright collectives that were formed during the 20th century, is built on a strict dualism between what is called public performances and private use. Despite this, the grey zones have made themselves reminded in copyright disputes about how music should be used in schools and workplaces, in associations and religious organisations, and in recent times within the framework of different digital communications of a semi-open character. Private or public? Judicial institutions are forced to classify each practice as either one or the other. The idea of semi-closed or semi-open activities is dismissed in advance. When informal collectives that grow in scale begin to assume more fixed forms, they are therefore forced to choose between two paths: either an existence in the shadows where one closes oneself towards the outside world, but does not have to concern oneself with rights, or a kind of openness that chases superficial economic advantages in order to be able to pay license fees and streamline in order to survive the competition. The bisection into private and public is intrinsic to copyright and can hardly be made less wooden by reforming the legal text. On the contrary, we ought to concede a legitimacy of their own to the grey zones, based on their importance in the growth of new cultural phenomena. Copyright conflicts may then serve as a springboard for the asking of new questions about space for companionships to gather in, which paves the way for a new politics of the question of spaces in the city.

25.

The methods for exploration of the conditions of music in the postdigital are many. Some of the most efficient ones are signified by a systematic negation of everything represented by the iPod music player - away from shuffling in an incomprehensible surplus, out of the bubble of the individual that is encapsulated in small white earphones, out into collective experiences where music touches us in a more tangible way. Two such methods were discussed above. One aimed to create musical situations by actively abstaining from music during a limited period of time. Another was about creating a temporarily closed space where the digital surplus was excluded in favour of other sources of music. Both of these methods were intended to nurture situations that, to a certain extent, arise also in everyday life, for the sake of achieving an intensified feeling of presence, which in turn may offer insights about the postdigital conditions of music. The same applies to a third

method that is consistently materialistic in its relation to sounds. In this case the negation of the iPod leads us downwards, towards the very lowest bass frequencies that are impossible to realise with small white earphones.

When truly deep bass is being utilised, the need for big and heavy speaker boxes - or big and heavy musical instruments of other kinds - is an acoustic fact that no digital code in the world can escape. Deep bass is, to an exceptionally high degree, about affecting the whole body, not just the ears. In fact, the deep bass does, even at high volume, respect the eardrums that so often are lacerated by the high-frequency sounds at rock concerts. On the other hand, low frequency vibrations have a notoriously low degree of respect for architecture. Bass sounds travel, as all neighbours know, straight through walls and floors. Hence, bass emphasising music often has to take place somewhere slightly remote. Typically, this is in empty industrial buildings that, in the digital surplus, with these means are anchored in time and space. The flows of people go to places in south London, east Berlin and to old harbour and railway areas in Swedish cities. At least until the hyper-efficient spreading of rumours in digital communications makes it impossible to continue on the same scale that allowed the dynamic to arise. The bass then has to take place in new places, to where the flows are redirected. This has been going on for several decades now.

Something characteristic happened in the mid-00's, contemporarily with the implosion of cyberspace and the overflowing of all boundaries by the digital surplus of music files. The south London musical phenomenon that was named dubstep came into being not quite as a genre or a style. What held it together was rather a specific way of combining digital communications and huge bass speakers, in order to gather temporary fellowships and process a particular musical family tree. Even songs that stem from a time long before the dubstep phenomenon could be regarded as dubstep after having been sent through this cycle a few times. Net radio contributed an important part of the selection. The broadcasts were connected to semi-closed chat rooms where different DJs got immediate reactions from listeners. However, it was understood by everybody that the music did not fully come into its own until it was realised at a club with enormously large bass speakers that allowed the entire body to be befallen by the bass frequencies.

Contemporary club cultures' obsession with bass - which goes far beyond the dubstep phenomenon - has given rise to a new musical materialism where collective spatial presence is what counts. Deep bass lines from large speakers realise something that cannot be copied, cannot be moved around, cannot be enjoyed in an individual earphone bubble. This is about something that either touches a multitude of bodies or none.

Is it possible to be any more consistent than this if one wants to negate everything that the iPod represents? Simultaneously with the little white music player becoming something that nearly everybody in the western world owns, a musical phenomenon spreads, one that strictly speaking cannot be put in one's pocket but only takes place close to large bass speakers. However, the negation is not a dismissal of the digital technology. It remains a crucial aid in creating a cultural continuity and gathering visitors to the clubs. Bass emphasising music may be experienced in earphones but then only as a simulation, without the deepest frequencies, without the grounding in the entire body. The value of individual listening comes only from the memory of past experiences and the heralding of future events - which necessarily are collective, bodily and rumbling.

The bass emphasis of contemporary electronic dance music contributes to a rewiring of the musical circulation, so that the digital and the analog are allotted places that are more clearly separated. Possession of recordings becomes less important, and the emphasis on individual creators does, too - even though established economies work towards pushing the phenomenon back into their own circulations. All of this has happened without the artists or arrangers concerned having had to strive towards this direction consciously. Deep bass frequencies must be understood strictly materialistically and with the entire

body. The music does not exist in an iPod, even though an iPod may serve as a memory aid.

26.

During the greater part of the history of music, there has been no concept of “music” as an expression of the innermost feelings of the individual, or as a universal language. Rather, music was an activity that was impossible to imagine outside of various kinds of rituals: mass, court life, military parades, local festivities and so on. Different musical instruments belonged to different places, different melodies to different times of the year. The music was, simply stated, inseparable from its context.

Between the premodern and the postdigital we find, as if folded in, the entire package that is usually called modernity. A systematic separation in two of things such as body and soul, nature and culture, object and subject was its hallmark. During the end of the 18th century, “culture” was invented as a sphere of its own, defined as an antipode of the sphere of industrial production. Simultaneously, the idealist philosophers of the time constructed both modern aesthetics with its system of art forms and the foundations of modern copyright laws. The educated circles in Europe took in the idea of autonomous music. It was assumed to exist in the form of compositions on an immaterial plane, independent not just of time and space but also of musicians and their instruments.

The separation between spiritual culture and material technology, which was completely aligned with what has been called the constitution of modernity, gradually enabled an amazing spread of music machines. At the same time, one could continue to maintain the idea that the music itself happened on a different and higher plane. The claim that music had become “reproducible” thanks to the record player and the radio presupposes the idea of a musical original, which exists independently of whether the work is being played or not.

During the interwar period, electric loudspeakers became widespread, which meant that recorded music for the first time could reach a sound volume equivalent to that of the established musical instruments. Only then was the idea “live music” invented as an antipode to all of the “mechanical music” that was being heard from the speakers. During approximately half a century one assumed that man and machine were rivals, and that a ruthless logic of economics was working towards replacing performances with pre-recorded loudspeaker music. Those ambitions of cultural politics that were intended to save live music from complete extinction characterised the economies of musical life. The division of music into the two categories “serious” and “popular” became perhaps even more important. Over time it was increasingly put into question. Culture radical currents that arose at the end of the 1960’s put less emphasis on traditions and more on participation. As a consequence of this, a third pair of antipodes emerged: active playing of music as opposed to passive listening. The body, which had been denied by the 19th century, was somewhat restituted by this.

Living/mechanical, serious/popular, active/passive - these three axes constituted a kind of coordinate system that, to a large degree, structured the valuation of music during the high modern peak of the 20th century. Then the so-called postmodernism that everywhere sought to invalidate the hierarchy of values came. Also in listening an active element existed. Popular culture was held to be as valuable as high culture. The figure that more than anybody else personified a postmodern culture was the DJ, with his or her ability to make the mass produced recordings “live” again.

Despite all this, postmodernism turned out to be incapable of abolishing the separations that had been inherited from the constitution of modernity. The evening out of hierarchies paved way for the 1990’s of the CD bubble rather than achieving this, during which the record companies celebrated their historical golden age, while live performances were reduced to a means of marketing the products. The music appeared more separated from

its contexts than at any other time previously. It resembled a parodic repetition of the old idea of autonomous music, but this time stored on digital discs instead of as sheet music. Music in the postdigital is, conversely, music that takes place. The concept postdigital does not signify a new phase in cultural history, rather a maturation of the digital experience that makes us value presence once again. Selection from the surplus becomes a more pressing question than obtaining access to even more recordings. The use of yet another concept with the post- prefix is justified only by the need to brace against the denial of events, presence and togetherness that continues to characterise narratives about the digital in our time. The ongoing digitalisation of music has not resulted in a “virtual” version of the disc selling culture of the 1990’s, but rather led to a resurrection of things that long were considered hopelessly outdated. Suddenly we notice how music in the postdigital has traits of the music that preceded the era of sound recording. The digitalisation of music seems to have folded time somehow.

27.

Cultural politics must, in the postdigital, relate to the coordinate system for the valuing of music that was inherited from the 20th century and is still very much alive. The objective ought to be a slow replacement of the three axes - serious/popular, living/mechanical, active/passive - with concepts that are more suitable for valuing musical efforts that on all levels are permeated by relationships to the digital.

As for the question of so-called serious music, it is first and foremost necessary to acknowledge the deep crisis that the public symphonic orchestras are facing. They continue to play a narrow repertoire of safe cards - classical composers from the 19th century and a few surrounding decades - in desperate attempts to keep their ageing core of concertgoers that collectively approach death. Secondly, there is no basis for fears that a shortage of classical music would arise, neither on the stage nor on the disc. The goal of cultural politics in this area ought not to be creating availability, but managing and nurturing the rather longstanding tradition of making new interpretations of art music in sheet form. The intrinsic value of this is not in classical music supposedly making concertgoers into better people, but in the possibility of new generations of musicians being schooled in this tradition. However, the need for such a large number of symphony orchestras is doubtful, with each of them having a size that only is necessary for the most bombastic 19th century music. On the whole, there ought to be a shift from a small number of large symphony orchestras to many small chamber ensembles. This would improve the conditions of a true closing of the gap between sheet music and improvisation based music. The long term ambition may be summarised in a simple slogan: “Abolish art music - but do it sensibly”. Granted, it is desirable that new generations of classically trained musicians keep the sheet music tradition alive, at the same time as they mix with musicians of other traditions. On the other hand, it is high time to abolish those training programs that lead composers into a sadly isolated tradition of sheet music - which may hardly even be called a tradition, since the works almost never are performed more than once. Sound artists that succeed in breaking the isolation should be able to find a home in the world of contemporary art, once its preference for the visual has come to an end. However, because of the in some cases incredible strength of the romantic myths surrounding the tradition of classical music in certain social classes, the closing of the gap between different musical traditions must be allowed enough time. Rushed crossover projects and the sudden disbanding of orchestras only lead to the mythology being turned into kitsch.

As for the other pair of antipodes - live versus recorded music - nobody believes in the theory of the two poles being in competition anymore. The availability of digital recordings has rather increased the demand for musical presence, which has led to a clear turnaround in the economy of the music sector. The concept of “live”, which unfortunately is overly coloured by clichés of rock nostalgia, can only cover a small part of all those

situations where music takes place. The production of musical presence should be aided and valued, disregarding whether the sounds come from recordings or from instruments. Digital machines enable a continuous scale from listening via selecting and remixing to playing. In light of this, a simple division into active and passive seems awkward. Simultaneously with the three old pairs of antipodes carefully being put aside, it is appropriate to replace them with other distinctions that are better suited to grasping the qualities of the postdigital. The boundary lines should then not primarily be drawn between works, styles or originators, but between different kinds of musical situations - in particular between individual and collective ways of experiencing music. During the last thirty years, earphones, connected to pocket sized music players, have been a considerable aid in music listening. Never previously has music been experienced individually to such a degree - which does not need to mean that collective experiences have lost meaning, though. The playlist is always built with other people in mind. The music inside the earphone bubble can hardly set the body in motion. However, neither is it a simple background. Rather, it serves as an ongoing selection, and for maintaining the necessary illusion of personal taste. A postdigital valuing of music assumes an ongoing alternation between individual listening and collective events, where the collective ultimately is valued more highly.

28.

Around year 1900, using new optical and acoustic media technologies, it became possible to capture time. The film and the record player, respectively, would both receive central roles in the mass cultural explosion of the following century, but with very different relationships to tradition. Even though cinemas did everything to imitate theatres, film immediately developed into an art form of its own, separate from theatre. A decisive reason was that film, from the very beginning, was recorded on tapes that could be cut. Sound recording, on the other hand, happened on discs or on cylinders that could not be edited subsequently. Because of this, recorded music did not become an art form of its own. Rather, it came to be understood as a way of documenting live music performances. Only after half a century of recorded music, it became possible to cut the recordings. The tape recorder, a military technology that American troops had taken from the Germans as war spoils during the final phase of the second world war, enabled a music that nobody would have been able to imagine previously. Still, the newness was not sufficient to restructure the system of aesthetics. The music continued to be considered as a unitary art form. In order to value its different varieties in relation to each other, the three dimensional coordinate system that was presented above arose.

All would have been different if the tape recorder had been in place already around year 1900. In the same way as it was with the divorce between theatre and film, music would then in all likelihood have been split into two separate art forms - a music of events, a music of products. Some musicians would obtain their livelihood only from live performances, others only from producing recordings. Cultural politics and cultural debate would treat these as two separate art forms, each with an absolute right to live on with its own conditions, such as theatre and film, respectively, are discussed today. Conversely, it is possible to speculate in how we today would have valued film and video has expressions of art if the first half century of filming would have been stored on uncuttable discs, instead of on cuttable film tape. The almost random development of technology around the turn of the century 1900 is, simply stated, of great importance for how we may understand what is happening to culture during the long turn of the century 2000. Digitalisation joins text, picture and sound into a single medium. The machines that are used for reading, watching and listening are of the same kind as the ones used for writing, editing and copying. This raises the question of whether it is possible to preserve the 1900's version of the system of aesthetics, that is, the unstated list of a number of art

forms whose existence has a value in itself and that should be guaranteed. Many deny their belief in such a system of aesthetics, only to soon after express their benevolence towards “creators” or “culture creators”. Such vague concepts presuppose partly the definition of a certain sphere of human activity that has an aesthetical character and thus a value in itself, and partly the ability to isolate a certain group of people who, unlike the others, carry out this activity.

The idea of a system of aesthetics is encoded into cultural politics, in the entire complex that is called copyright, as well as in current taxation law. The system’s limits of what activities are to be considered art are slow moving, but changeable. Very simply put, the creation and performance of “works” is promoted at the expense of those more volatile activities that are not centred on the following of a script or the leaving behind of a document. The need to produce ever more works, as if there were a severe shortage, appears to be the unstated point of departure. The selection from an abundance and the concrete linking of the works to time and space, on the other hand, are not something that is promoted. DJs and party arrangers, curators and gallery owners - granted, these may be acknowledged as culturally valuable craftsmen, but not as “creators”, since their efforts do not result in “works” of their own. Thus they are not awarded copyright privileges either, which, incidentally, would be completely unreasonable. We do not hear DJs demand rights to their playlists, since they realise that the selection is made not by an isolated individual, but in some way happens between those individuals that are present.

29.

The lyre, with its seven or eight strings, was in ancient Greece not just a symbol of music. The lyre was music. Music, in turn, was not just an expression of the harmony of the spheres. The universe itself was music, music was mathematics, and the lyre was a magical object that let these principles meet the senses of humans. Since then, the lyre has been replaced by other string instruments, such as the guitar and the piano, the strings of which are tuned according to other mathematical principles.

For us, it would be unreasonable to claim that a piano is music. Somebody has to use the piano, a choice has to happen between its eighty-something notes, for us to be able to speak of music. From music as an object to music as an activity. As a thought experiment, we may attempt to carry out the same change of perspectives, focussing instead on the postdigital. All we have to do, then, is think of MP3 files in the same way that we are used to thinking about musical instruments. The file is not music, but it contains certain potentials of music that may be realised if somebody uses it. A MP3 file is being made use of by the activation of a certain connected system of software and hardware, at a particular time and in a particular place, in the presence of a limited number of people. Shuffling the archive of all songs that ever have been recorded becomes music no more than randomly pressing down the keys on the piano does.

This way of thinking means, to an extent, that recorded music is devalued, at least in comparison to how highly the recorded final products were elevated during the CD bubble. On the other hand, it does not mean that all recordings or all MP3 files would be of the same quality. On the other hand, there is a possibility to reformulate the quality criteria: a good song that has been fixed and stored, no matter whether this is as a recording in MP3 format or as an inscription on a music sheet, carries a greater potential to be realised as good music - just as a well built and well tuned piano carries greater musical possibility than a piano that was found in a dump.

However, even the most rickety worn out piano may, in the right hands and the right context, produce amazing music. In the same way, it is fully possible for a singer to turn a song into an amazing performance, even if the song at least until then was considered bad, or for a remix artist to do the same thing with a poor recording. The raw material (sheet music or recordings) then only makes greater demands of artistic ability by limiting

the musical room to manoeuvre. All musical instruments, though, are ultimately about limiting the room to manoeuvre, for example by the tuning of strings in a particular way. During the heyday of autonomous music, when the composer in a natural way was put uppermost in the hierarchy of aesthetics and copyright, the development of new musical instruments appears to have stopped completely. New music was equivalent to new compositions, not new instruments. Within electrified music, though, a sneaking opening up of the limit between composer, musician, instrument builder and sound technician began. Even though the audience saw the same electric guitars on stage, what they heard was ever new assemblies of effect modules.

If we zoom out slightly, each assembly of instruments and sound equipment appears as a meta-instrument. The same thing may be said of different ways of assembling software and hardware for musical ends. The development of musical means of production happens through innovations in this meta-instrumental plane, which usually are the result of a collective experimentation without a sole originator. The availability of digitally copied music software has lowered both the barrier of entry to production and the cost of distribution tangibly. In this way, digital abundance appears to almost feed itself.

30.

Analog information is both fixed and realised in no time. From microphone to cassette tape, or from disc to speaker, the analog sounds are conveyed as varying intensities in an ongoing flow of electrical or mechanical energy. The relationship of the storage medium to the membrane is, so to speak, immediate. If the tape or the disc rotates more slowly, the frequency of the sound is immediately lowered. This kind of anomaly does not exist in the digital, though. There, the sound goes silent immediately.

All use of digital information means that the information is copied. Even if the copying often is rapid enough to be experienced as an immediate transfer, the materialisation via speaker, printer or monitor is only the final stage in a long series of identical copies. Each time somebody listens to an mp3 file, the contents of the file is copied from the hard drive to the working memory, from the working memory to the sound card, and so on all the way to the speaker membrane where, ultimately, a non-identical copying into the postdigital takes place.

All use of digital information means that the information is erased. If a computer program fails to erase its tracks, the computer hangs and may in the worst case have to be rebooted. All digital files will, sooner or later, be erased. This is far too nauseating to be considered in one's everyday interaction with computers.

When we make use of the net to play music, we use different metaphors to designate the length of time during which the copy exists in the computer. If the copy is preserved for a very short time after its arrival, it is called streamed music or web radio. When we watch a music video in a web browser window, the metaphor tricks us into believing that the video exists somewhere else, although it actually has been copied to our local computer already. Certainly, the video is erased when the computer is switched off, at the latest. On the other hand, if the copy is preserved for longer than this, the copying is usually called downloading, as if there were an up and a down in the network. Between these varieties there is, strictly speaking, only a difference of degree of time - as opposed to the difference of technological kind that exists between radio waves and vinyl records, the two dominant musical media of the 20th century.

A digital file cannot be made durable, except by indefinite copying. Without being copied further, it is impossible for a digital file to survive even half as long as an old vinyl record. Besides, a digital file cannot be sold on in the flea market next to the vinyl record, not even if the file was once "bought".

Hence, the idea of an item price is and remains absurd in digital contexts. Digital simulations of record stores purport to sell the same product, but packaged in a file instead

of in a record sleeve, but they actually sell a license that grants unlimited copying of the file, but only by making use of certain software and only within the framework of a vaguely defined private sphere. The scam presupposes on one hand that the ever continuing copying is hidden behind the metaphors of user friendly interfaces, and on the other that the unprecedented musical surplus is overshadowed by well exposed hit lists.

31.

When a large collection of vinyl discs suddenly is lost, for instance by theft or a fire outbreak, it is almost always a traumatic event. Not so when a digital music archive perishes through a hard drive crash, which happens considerably more often. On the contrary, the data loss is then usually followed by a surprisingly refreshing feeling of having been given new room to breathe. The music collection, which was too large to be surveyed after all, not to mention to be realised in its entirety, may be rebuilt from scratch. After such a fresh start, it is even possible to listen in shuffle mode without constantly falling into a restless skipping. Granted, there are painful data losses. It may be the case that the data was unique, and was only ever stored in one place, without the necessary copying to other devices. Music files, though, seem to have a rare ability to backup themselves.

In the case of text and video files, one sometimes has reasons to keep them to oneself, but the experience of being touched by music is bound up with a will to share it with others. Those filesharing networks that grew during the 00's have turned out to function as distributed archives. As long as a handful of users are in the habit of listening to a given music file, it will also be copied on to other places in the network. From there the file may also be brought back, on the condition that it was indexed in the filesharing network. On the other hand, if nobody is in the habit of listening to it, it tends to gradually disappear from all indexes.

What is digital exists only through a continuous interplay of copying and erasing.

Everybody has had to learn that actively making backups of important and unique files should be made into a habit. The same should apply to active deletion of inferior files. This has already become everyday for those who experience a constant overwhelming by the digital flows. One might just as well regularly erase songs, artists and entire genres from one's archive - for fun, in order to give room for new musical passions, because what was erased always can be brought back from another place in the network if nostalgia sets in. The music of the postdigital is a music that is impossible to intentionally erase. Thus it heeds the desires for presence that are awoken by digital abundance. Memories cannot be erased at the push of a button, even if such fantasies were highly regarded while the idea of cyberspace was still alive. Shared experiences remain divided. All shared memories are not equally good, just as all shared files are not equally good. The selection brought about by presence is as irreversible as it is inevitable.

32.

"Under the influence of music I appear to feel what I actually do not feel, understand what I do not understand, and know what I do not know. The way I explain this is that music has to have the same effect as yawning and laughter. I am not sleepy, but I still yawn, I have no reason to laugh, but I laugh when I hear others laugh." Thus spoke a Russian, who happened to be the main character in a novel, almost contemporarily with the invention of the record player. Already the concert culture of 19th century Moscow he experienced as a musical abundance close to the boiling point. Music has the power to induce powerful emotional energies. If these are not expressed bodily, the Russian had it, they might become directly dangerous: "One plays a war march, the soldiers march to it, or on plays a dance, I dance and the music has resulted in something. One sings a mass, I participate, here too the music has served a purpose. In yet other cases it just stirs the mind, but the end, to which it is supposed to rouse, is lacking. And therefore music has so difficult,

sometimes even terrible effects. In China music is a government monopoly. Thus should it be."

Certainly music has been a government monopoly in some societies, while it in others has been reduced to a minimum as a religious asceticism. More commonly, only people within a certain guild have had the right to perform music. For as long as people have lived next to each other in cities, they seem to have taken precautions against a threatening musical flood. The radio broke the dam by making music accessible constantly and everywhere, but on the other hand the government guaranteed that it sounded the same everywhere. No matter what channel was being listened to, the listener could feel reassured that he or she would share musical points of reference with a fairly large group of other listeners. Technology drew up boundaries for how much music could be recorded and made publicly available during the 20th century. The boundary outposts were manned by a group of men, employed at record companies and radio stations. The dam was a guarantee that the masses would never have to confront an abundance of music too difficult to survey. Thus the value of each purchased disc and each signed contract was maintained. Today we are aware of more music. More artists can reach an audience. We have a greater ability to distinguish between good and bad music for ourselves. But our lives still have a limited length. No individual is close to singlehandedly being able to judge all available music. We are all forced to trust one collective or another. Therefore we must now invent new collective musical situations that can serve as a basis for a common selection. The alternative is to rely on a rotting hit list regime from the last century.

33.

Each time that the effects of digitalisation on the cultural realm appear in everyday political debate, opinions congregate in two opposing camps. Disinterest in the postdigital is emblematic of both. On one side a camp is formed that could possibly be called conservative, since it assumes that copyright is an inviolable human right. In order to be able to believe in an inviolable exclusive right to, for instance, the manufacturing of physical copies, it becomes necessary to regard the Internet as a world of metaphors to which existing enterprises may be moved. "The same rules must apply in the virtual world as in the physical," is a standing phrase in this camp, which regards itself as a contributor to the Internet in its building of digital store simulations. There one is supposed to be able to "buy music" and "rent movies", just as before, but more quickly and conveniently. If sales in these simulated stores do not reach those levels one supposes that one has a right to sell at, which they never do, it is taken as a pretext for the government having to reinstate scarcity. Filesharing networks end up in the line of fire, as well as software that can preserve files even though the simulation demands that they are erased. Ever new paragraphs and judicial processes aim to train and scare the public into buying files. None of this is acknowledged as being politics, though, since copyright is supposed to be above this.

On the other side there is a camp that praises digitalisation, looks ahead to the future, and confesses its faith in new "business models". Especially embraced are those services that grant immediate access to all music that has ever been recorded, without a per copy cost. Who the individual is meant to trust in order to make a choice from this unprecedented abundance is not considered a relevant question. Friends of this camp assume that music is an individual concern and that each limit to the individual's immediate freedom of choice has to be bad thing. It is hardly surprising that most people in this camp call themselves free market liberals, but it also houses a minority that is of a socialist mindset, which believes that digitalisation ushers in the establishment of a simulated kind of public libraries. Regardless of whether the new model is supposed to be funded through subscriptions, advertising or taxes, the point of departure is that there has to be an exclusive class of "creators" who create the entertainment that the masses lick up via the

broadband connection. Thus, the debate between the two camps is forever stuck in the question as to how money is to be spirited away from point A to point B.

34.

Occasionally, one can also hear a third kind of voice that wants to talk about other things than how money may best be shovelled to an exclusive class of creators. The time is right to acknowledge play as a driving force in culture, this camp has it. The question is, then, what is contained within the concept of culture. Very simply put, two different varieties of this message emerge.

On one hand, the message is expressed through the widespread embracing of a digital remix culture, where culture is understood in terms of information: the output of one is the input of another. Usually the standard bearers of remix culture are happy just to want to liberate these digital flows from unnecessary barriers caused by copyright. There is no particular interest in the question of whether remix culture can be realised as postdigital events or how people are supposed to be able to find common points of reference in its swirling flows.

On the other hand, a more radical current that understands culture in terms of collective presence has now appeared. Against a dominant "spectator culture" they put their vision of a new "participant culture", influenced by equal parts anarchist ideology and live role playing games. The ideal is a culture of events where everybody present is considered to be a co-creator to the same degree. Since not even temporary divisions between artist and listener are accepted, only a very narrow space for music remains. Everybody has to play, but nobody is allowed to take responsibility. Nobody is, in principle, allowed to strike a beat for others to follow.

How can anybody dance without subjecting themselves to a rhythm? How is it possible to carry out a dialogue that does not consist of monologues? The assumption of an absolute opposition between active participation and passive viewing, as in the most dogmatic definitions of participant culture, leads to a nihilist ideal. Participation becomes an even grey pulp, and in the long term, a duty.

A more pragmatic alternative is to value those situations of a collective production of presence where everybody take on some responsibility, but some take on more, without a special class of people who are always responsible for music having to crystallise. The relation between the artist and the spectator is a temporary agreement, which may very well be reversed the next day. Real participation does not arise from ideal situations where all hierarchies have been flattened. Rather, it presupposes that a manifold of different collective musical experiences manage to secure room in space.

35.

Can one consume culture? Can one consume energy? "Consumption" is an equally misleading word in both cases. Neither culture nor energy disappears when they have been used; they just take on more elusive forms. The tour bus burns hydrocarbon compounds, those who dance burn carbohydrates. The movements of both the highway and the dance floor are ultimately nothing but reflected sunbeams. They are solar energy that has been converted into chemical energy by the photosynthesis of plants and stored. Yet another way of combusting fossilised sunlight is producing bass sounds from large speakers.

Almost simultaneously with the implosion of cyberspace, the world reached its oil peak. We now face a slow and crisis-like phasing out of the fossilised energy basis that the entire industrial era was founded on. An abundance of stored culture is the postdigital problem, while the post-fossilised problem is about a lack of stored energy. Still, both trains of thought lead in the same direction: towards a new materialism that emphasises the importance of place, and that rejects all naive dreams of a world without distances.

If the post-fossilised future thus far has been hard to formulate in other terms than negative ones, postdigital culture offers a positive valuation of physical presence. On the other hand, it is inevitable that the postdigital will be forced to partly take on different forms as the price of oil surges mercilessly. When air travel is no longer possible, visits to foreign continents will last not for days, but for months. This means the end of stressful world tours where the artists hardly know the name of the city they are playing in.

36.

A die throw can never revoke randomness. Besides the possible results of 1, 2, 3, 4, 5 and 6, the probability of which may be calculated, it is also possible to imagine that the die shatters, disappears, or in some inexplicable way shows the number seven. Which of the 16381 available songs that will be the next when we shuffle onward is also the result of a calculation. But some small genuinely unpredictable element is always present where music takes place. If only as a risk factor that makes it possible to feel the responsibility for the music in the stomach, or as an uncertainty towards how those who are present will act. Music of musical improvisation is about the ability to instantly embrace that which appears unexpectedly, by repeating it with precisely that degree of variation that makes the others who are present uncertain as to what was planned and what was not.

The use of a shuffle function waters down the feeling of presence, while the unpredictable element that cannot be calculated, on the other hand, is what makes an event memorable. Consider, for instance, how much weather influences the attraction of festivals. If it is possible to predict in advance exactly what will happen, it becomes dubious whether physical presence would be particularly meaningful.

The risk of disappointment is a precondition of a collective choice out of abundance. A collective musical experience filters the available music that is on offer in a way that cannot possibly be simulated remotely. Digital communications make disappointment all too easy to flee from.

37.

In order to be able to choose what we want to listen to from an offering of recorded music that is infinitely larger than what an individual human can survey, we must rely on others to a great extent. Then both digital and postdigital means are necessary, software as well as presence. Automated recommendations may open the ears of the individual to music they did not know that they wanted to listen to, but only by using data that informs of the everyday musical choices of other individuals.

Collective musical experiences are something more than recommendations. Because they cannot be copied, not erased, and not calculated, they mobilise strong desires. Desires may be passed on as contagions in the postdigital, from one temporary togetherness to another. Without the Internet, these crowds could hardly be gathered. The circulation between digital information and postdigital situation never ceases, but it is far from working optimally. The alliance of record companies and mass media still supply a large part of the selection that ultimately becomes inevitable if music is to take place.

We would like to be able to discover music that touches us together with others, without being reduced to individuals or consumers. Record companies and mass media can be replaced by a sufficiently evolved postdigital choice, carried out together by those who are touched by the music. Then it is not sufficient that each consults their own insular idea of "personal taste". A common choice emerges between those who are touched, at the time of touching, in the movements themselves.

38.

Pushed by the digital abundance that spewed forth out of the giant distributed archives of filesharing, record companies eventually found themselves forced to offer a centralised

archive of the same extent, without an item price. By interleaving the music with adverts, some money was put in motion, but retaining control of the software was of greater value to the record companies. "Streamed music" means that sound files are copied to the user's computer, only to be erased immediately after playback. Each listening requires a new copying from the central server, which thus can compile complete information as to precisely whom is listening to what, and thus trace contagious desires.

Isolated individuals are given access to the surplus, while the statistics is locked in, and various tools for collective choice are kept at a distance from the user interface. It remains for the individual, faced with the empty search box of this interface, to type in an artist name that she already knows. From a billboard, from a TV show, from a magazine interview. Briefly put: without costly marketing, it becomes very hard for an artist to reach a large audience in competition with everybody else. Thus the record contract can remain the artist's gateway to the stage lights, even though record companies on all other levels appear ever more unnecessary.

39.

A postdigital music criticism (or whatever one wants to call written evaluations of music) must first and foremost abandon the review as a standard format. The record review is an inadequate format, partly because its news value is dependent on an increasingly abstract release date, partly because the evaluation of the record as the artist's product is allowed to overshadow those contexts that the record both springs from and enables. The concert review, on the other hand, generally relies on narrow conventions as to what a concert is. The concert as communication - the ability of the artist to convey a feeling to each in the audience - is preferred over the concert as a situation. Reviewing those togethernesses and behaviours that music is able to mobilise ought to be at least as desirable as reviewing an artist's effort.

Postdigital music criticism should not assess music as objects, but in terms of events that may span ten seconds or ten years. Within the boundaries of such events, the critic can assess recordings and instruments, artists and audiences as well as software and architecture. On the other hand, writing about a disc only because it has been "released" is no longer good enough.

40.

New music must be produced. That much everybody seems to agree on. During the CD bubble of the 1990's, new music was synonymous with new record releases. There were even those who warned that the Internet might make the availability of new recordings dry up. If copyright is not guaranteed, the electronic superhighways will stand there empty, the prophets of doom had it. That thought is absurd today. The inflow of newly released tracks and albums is greater than ever. Nobody can survey all the new genres and sub-genres that emerge. At the same time, hit lists are marked by a gluttony of nostalgia: old artists re-released, new artists marketed as a return to something genuine.

From a postdigital perspective, though, it is secondary whether something is new in the so called record flood. New music is music that is capable of establishing new situations, where people are touched in new ways. A new record is only one of many ways to pitch in. All music is postdigital. Whether digital machines are used to produce the sound is of less importance. Every musical situation is today signified by the abundance of the digital offerings. Feelings of surfeit and restlessness mix with strengthened desires for presence and togetherness.

41.

All books are postdigital. In the most immediate meaning of the word, as the materialisation of a digital file, this also applies to each printout from, for instance, a blog.

The gap that separated the printing press and the computer's printer is on its way to being dissolved into a floating scale when print-on-demand is followed by new machines that in a matter of minutes turn a PDF file into a paperback.

There are still points to maintaining a distinction between the blog as a flow and the book as a stopping point. Blogs should link maximally, but books rarely become more attractive just because one has attempted to squeeze in so-called interactivity between the covers. The book should relate to the net as a selection from an abundance. The writing begins in the copying of a large amount of text from the net, after which a time consuming process of sifting and editing takes over. When the book ultimately is printed, it is returned to the circulation and has repercussions in the digital.

However, the idea that the book medium has to leave the material in order to become digital must be rejected. When publishers start regarding the sale of digital information as their task, they will be doomed to follow in the footprints of the record industry. Then they will be forced to declare war on the open web.

42.

When someone who considers themselves not to be musical meets a musician from his circle of friends, the musician is often asked to "play a little". The unmusical would rather avoid more detailed requests than this, since he respects the musician's competence and does not want to be bothersome.

But such a statement is comparable with suddenly opening one's mouth during a silence, saying to someone "Won't you talk a little?" The phrase turns the innocent silence into an awkward silence, and the atmosphere in the room is guaranteed to become tense.

Satisfying such a request by "just talking a little" would be as asocial as it would be unmusical to "just play something" on demand. The words and the notes must, in order to be sincere, be saved for the right moment. Sometimes silence is what is most musical.

43.

Music that touches is music that puts bodies in motion. At a close distance by inviting a dance, by making bodies gravitate towards the dance floor and be put in rhythmic motion. But also in the case of people listening while sitting still in a concert hall, the promise of music has put bodies in motion. People have gone from the isolation of the home to a collective event.

Across a distance, music has to take a detour through language. "Have you heard who's going to play at the festival?" The group of friends go there. Music turns into memories that cannot be erased. The performance of the headlining act was probably not what created the strongest memories. Apparently the group of friends needed to be helped by a powerful symbol in order to justify their collective presence to each other.

44.

Breathing deeper, clenching the jaws, drumming with the fingers, crying. Music sets organs in motion. The touching can happen instantly, without a personal taste being conveyed. Different parts of the body can be touched to different degrees, depending on things such as sound volume and how the music takes place in the room.

Music makes time pass by having an effect on three parts of the body: we keep quiet (or sing along), we focus our gaze (or divert it), we move our legs (or stop). Music postpones conversations, gatherings and lovemaking and gives preference to another togetherness, a togetherness that takes time.

45.

Music is a pastime, that is to say, an act of sacrifice. Through music taking time away from tasks with a purpose, the day is brought towards its end, maybe even into a new morning.

From the perspective of utilitarian logic, music is always a detour to the goal, but music is not so much about neither perspectives nor goals. The attraction of musical presence cannot be explained by a balance sheet of expenses and experiences, only by the universal need to squander an abundance without a higher purpose.

46.

Sooner or later, music has to take place. The taking place of music is of a different kind than that of the landlord. But it is still a taking, and ultimately a violence. Here postdigital culture fades into politics. The conflict is not about the availability of files, but the availability of places. Places where crowds can gather and develop trust. Places for greyzones. Places for the unpredictable. Places for music to take.

47.

If we henceforth are to talk of music that touches (and not just of information that is being copied), three simple premises are suggested. Music gathers crowds. Music takes time. Music takes place.

## Link list

1.

The concept of a "chorus" can be found in Gilles Deleuze & Félix Guattari's *A Thousand Plateaus*. Above all it has a central place in "1837: Of the refrain", one of the "plateaus" that the book consists of.

2.

The analogy was supposedly formulated by Joel Lindefors during a conversation with Jon Cullblad. These two deserve particular mention for their invaluable contributions to many of the arguments in *The Postdigital Manifesto*.

3.

Bill Drummond, former front figure in The KLF, has in recent years made similar statements in a number of contexts. The quote is from his book *The 17*. See also section 19.

4.

Cited verbatim from the closing argument that Monique Wadsted, legal counsel for a number of large film studios, gave in the so called Pirate Bay trial (Stockholm district court 2 March 2009).

5.

The body's ability to be affected was a central question of Spinoza's. The reasoning is developed by, among others, Fredrika Spindler in her book *Spinoza. Multitud, affekt, kraft*.

6.

"Cyberspace" - or "telerymden" (telespace) as it was sometimes called in Swedish - is a woolly metaphor of varying meaning. Still, placing the golden age of cyberspace in the decade 1995-2005 is a reasonable generalisation. According to the common conception of the time, the Internet constituted a separate, immaterial and "virtual" world. John Perry Barlow's text "A Declaration of the Independence of Cyberspace" from 1996 is characteristic of this conception.

The year 2005 may designate the historic point in time when blogging as well as Wikipedia exploded in their extent. This was the same year that YouTube was founded, the idea "web 2.0" was popularised, and file sharing culture started to stabilise around the BitTorrent protocol. Dubstep (see section 25) as well as No Music Day (see section 19) may also be associated with this year. 2006 was admittedly the year when the "virtual world" Second Life got enormous attention around the world, which made the Swedish government open a "virtual embassy", and made scores of artists arrange "virtual concerts". But it is striking how quickly Second Life was forgotten when a new super site soon after attracted all attention: Facebook.

7.

The question of values that cannot be copied may partly be put in strictly economic terms. The Californian ideologist Kevin Kelly has been particularly influential concerning this with his article "better than free".

From an aesthetic perspective, the question has been of long standing relevance for theater theory. Hans-Thiess Lehmann's book *Postdramatic Theater* starts out from the medium of film having forced theatre to rediscover itself (also see section 27). Here, presence appears as the central value that cannot be copied.

Hans Ulrich Gumbrecht has in the book *Production of Presence* carried out a bold philosophical investigation of presence that underlies how the idea is used in *The Postdigital Manifesto*. There too, a short discussion of the relation between digitalisation and presence is carried out.

8.

The point of departure of the "general economy" that Georges Bataille developed first in *The Notion of Expenditure* and later in *The Accursed Share* is the need to squander a surplus of energy that the earth receives from the sun.

9.

Expressed in Deleuzian terms, one example is about a surplus of music as actuality, and the other about a surplus of music as a potentiality. It is easier to use the two terms "presence" and "information", though.

10.

The 20th century is sometimes designated as a specific media historical era. This is done with a view to suggesting that digitalisation should not only be viewed as the most recent stage in the advance of technology, but also, to some extent, as something that reinstates certain aspects of an older culture, which was denied during the 20th century. For some examples of different kinds, see Bill Drummond, Friedrich Kittler and Lawrence Lessig.

11.

The relevance of the increasing storage capacity was noted during the spring of 2008 by Daniel Johansson in a blog entry called "The Future of Private Copying". *Piratbyrå*<sup>7</sup> fixed the total abundance as a singularity by ritually bidding farewell to the so called filesharing debate during Walpurgis night 2007. This move appears, after the fact, as the beginning of a collective exploration of the postdigital.

12.

When this section was written, precisely 16381 MP3 files to choose between were on my hard drive.

The question of the nihilism of shuffle listening has been developed in a series of talks given by various representatives of *Piratbyrå* in various places in Europe during 2008 and 2009.

13.

The idea of a "groove" is used by Gilles Deleuze and Félix Guattari in their *Nomadology: The War Machine*. This is, incidentally, the only one of the plateaus in *A Thousand Plateaus* that has been translated into Swedish.

14.

The idea of the end of art recurs, for instance, in *Aesthetics* by G.F.W. Hegel. See especially the foreword by Sven-Olof Wallenstein to the latest Swedish edition.

The vertigo of the infinite archive is what Jorge Luis Borges conjures up in his short story "The Library of Babel".

15.

Automatic recommendation systems of the kind discussed here are coded into nearly all big websites. Best known is perhaps the algorithm that is used by Amazon.com. In the field

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<sup>7</sup> The Pirate Bureau, a think tank co-founded by Rasmus Fleischer.

of music, the currently most developed system is called Audioscrobbler. It is integrated into the web page last.fm.

Regarding the possibility of imagining musical taste and other habits as something that is non-individual, see Fredrika Spindler's book on Spinoza, the article "Smitto(nto)logi" by Christopher Kullenberg and Karl Palmås in *Glänta* 4/2008 as well as the short text "Postscript on the Societies of Control" by Gilles Deleuze.

16.

The research that forms the foundation of several of the lines of thought in this section is being carried out by Daniel Johansson. See his article "An Automated System for Analyzing Music Usage and Metadata Exchange on Digital Music Services".

17.

Regarding contagions, see Karl Palmås' *En liten bok om slem*<sup>8</sup> and Christopher Kullenberg and Karl Palmås' abovementioned article "Smito(nto)logi".

18.

"Rationalisation and manipulation of music through computer technology is here to stay. Gradually, music can come to be produced as a computer product of its own, without assistance from playing musicians. The effects may have serious consequences, where economical considerations may come to govern the progress of technological development, contrary to the interests of live musicians and live music." So did the chairman of *Musikerförbundet*<sup>9</sup> formulate the dystopia of a menacing "mechanisation of music" that was significant in cultural politics far into the 1980's (see *Musikern*<sup>10</sup> 6-7/1985). Also see my article "*Kampen mot musikmekaniseringen och makten över högtalarna*"<sup>11</sup> in the anthology *Mediernas kulturhistoria*<sup>12</sup> for an incomplete version of a chapter in my coming doctoral thesis.

19.

The initiative to No Music Day ([www.nomusicday.com](http://www.nomusicday.com)) was taken by Bill Drummond (cited in section 3). The background of No Music Day was discussed in depth in his book *The 17*. The celebration on the 21st of November 2008 took place at Jon Cullblad's home. The one who took on the responsibility of carefully leading the gathering back into music was Thomas Frössman. He also documented his entire playlist: <http://framtiden.medeltiden.org/backtomusic.txt>

20.

For a typical example of the traditional muzak criticism that attributes blame to something in the structure of the songs rather than to how music is put to use in space, see for instance Max Horkheimer and Theodor Adorno's *Dialectic of Enlightenment*.

21.

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<sup>8</sup> Literally, "A little book about slime".

<sup>9</sup> The association of musicians.

<sup>10</sup> The musician.

<sup>11</sup> The fight against the mechanisation of music and power to control the speakers

<sup>12</sup> The cultural history of the media

Hannah Arendt lets the question of responsibility as a basis of politics run throughout her book *The Human Condition*. In *Eichmann in Jerusalem: A Report on the Banality of Evil* she investigates the politics of non-responsibility.

The idea of a general strike as the zero point of action was presented by Walter Benjamin in his essay *The Critique of Violence* and has been developed further by Werner Hamacher in the article "Afformative, Strike: Benjamin's Critique of Violence".

A summarising definition of the idea of resentment is given by Gilles Deleuze in his book *Nietzsche and Philosophy*.

The parallel between the parliament and the concert hall is drawn by Jacques Attali in the book *Noise - the Political Economy of Music*.

22.

The observations of how music and megaphones may be used during demonstrations were made particularly in conjunction with *Vänsterpartiet's*<sup>13</sup> procession in Stockholm the first of May 2009. Also see the entry on Copyriot<sup>14</sup> that was posted the same day.

The manifestation at the burned down house of culture *Cyklopen* was held the 13th of December 2008. Also see Copyriot 25 April 2009.

23.

The bus trip described was denoted *S23M* and was carried out as an art project in July 2008 after *Piratbyrå*n had been invited to participate at the Manifesta7 biennial in Bolzano, Italy. Extensive documentation in various forms exists on the web, among other places. In particular, see the remixed article by art theoretician Victor Misiano and the coming documentary film *TPB AFK* by Simon Klose.

The question of the possible qualities of cassette tapes was mulled over by a large number of reader comments on two Copyriot entries, 3 May 2009 and 5 May 2009.

Mikael Altemark provided the one hundred cassette tapes.

24.

The questions of the ideal sizes and degrees of openness of fellowships were also investigated with the aid of the bus that was introduced in section 23, in particular during the subsequent trip, *S23X*, which took us from Bolzano to Belgrad in November 2008. A prime number is a number that cannot be evenly divided by any other numbers than itself and the number 1. An important application of the mathematics of prime numbers happens within cryptography, where discoveries of new and very large prime numbers enable more powerful data encryption.

The grey area between the private and the public, viewed as a copyright problem - in digital as well as spatial contexts - has been discussed by representatives of *Piratbyrå*n since 2006. Pirate cinemas such as Pirate Cinema Berlin and *Piratbion Stockholm* are particularly thought provoking examples of postdigital grey areas in copyright.

25.

Michael Koraszewski and Nisse Hellberg have made invaluable contributions to the question of bass.

The idea of dubstep as a negation of cyberspace has been suggested by the London based artist Burial during an interview with the foremost ideologist of the dubstep scene, Kode9.

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<sup>13</sup> The Left Party.

<sup>14</sup> Fleischer's (mostly Swedish) blog. <http://www.copyriot.se>

26.

The description of the integration of music into rituals during an era that may be called premodern is borrowed from Jacques Attali. He, however, believes that this disappeared in conjunction with modern capitalism. On the contrary, if we, like Bruno Latour, choose to understand modernity as a "constitution" rather than an era, we may assume that music never cut the ties with its collective and material contexts.

The 20th century idea of mechanical reproduction is discussed in depth by Walter Benjamin in his famous essay on the reproducibility of a work of art. However, he stays within the framework of the modern constitution by presupposing a non-reproduced original. This is pointed out by, among others, Bruno Latour and Antoine Hennion, in their contribution to the anthology *Mapping Benjamin*.

The opposing pair living/mechanical is a basis of the well known theory, formulated by the economists William Baumol and William Bowen, that an iron handed economical logic works to gradually replace present musicians with prerecorded music (also see section 18).

The opposing pair serious/popular was developed in perhaps the most consistent way by Horkheimer and Adorno in *Dialectic of Enlightenment*.

The opposing pair active/passive was formalised by, among others, Roland Barthes in the essay "Musica Practica". It appears to have had its heyday somewhat later than the other two, not least in connection with the ideal of participation that existed in the cultural politics of the 1970's.

Regarding the DJ as a postmodern symbolic figure, see the book *Last Night a DJ Saved My Life* by Bill Brewster and Frank Broughton.

27.

Serious/popular: the analysis of the crisis of symphony orchestras, as well as of noted and improvisation based musical traditions as "two force fields" follows, broadly, *Orkesterutredningen*<sup>15</sup> (SOU 2006:34). The suggestion to abolish art music, but sensibly, which was influenced by line two in the nuclear power referendum of 1980, was developed in an old entry on Copyriot 16 December 2006.

Live/recorded: see section 18, as well as Philip Auslander, who in his book *Liveness* makes an attempt to level the hierarchy of values between "live" and "mediated" music, without really questioning the relation of opposites itself.

The need to develop new dualisms, if only to escape the old ones, is discussed by Deleuze and Guattari at the beginning of *A Thousand Plateaus*.

28.

Friedrich Kittler has in a succession of articles and books historicised the analog sound media of the 20th century.

The divorce of theatre and film is discussed in Hans-Thies Lehmann's book on postdramatic theatre. Also see Jacob Wren's article "*Världen som liknar en dålig film*"<sup>16</sup> in *Visslingar & Rop* 22-23/2007.

29.

Regarding the lyre and the Greek unity consisting of music and mathematics, see Friedrich Kittler's article "Number and Numeral" in *Theory, Culture & Society* 7-8/2006.

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<sup>15</sup> Approximately: The Orchestra Inquiry. SOU is a series of public reports commissioned by the Swedish government.

<sup>16</sup> "The world that resembles a bad film".

30.

In his book *Das Rumoren der Archives*<sup>17</sup>, Wolfgang Ernst discusses the consequences of the necessity of copying digital information in order for it to live on.

31.

On the relation to a digital music collection, see Magnus Eriksson's blog entry "My music collection - the world" 3 July 2007 on [www.blay.se](http://www.blay.se).

The idea that memories would be erased at the push of a button was a fantasy in line with the old idea of cyberspace, powerfully depicted in the old Japanese anime series *Serial Experiments Lain* from 1998.

On culture as selection, see Gilles Deleuze's book *Nietzsche and Philosophy*, in particular sections 4.11 and 5.13.

32.

The quotes are taken from Leo Tolstoy's novel *The Kreutzer Sonata*.

Some examples of regulation of the musical life in Swedish history are given in my article "Bönhasarnas revansch?"<sup>18</sup> in *Fronesis* 31/2009.

33.

The section is an attempt at a short summary of the dominant positions in the so-called filesharing debate, and in particular of the form it takes when blogosphere debaters react to what is being said in mass media.

34.

For visions of remix culture, above all see Lawrence Lessig's books and the talks that he has given around the world. Here the primary concern is the rhetoric that has characterised discussions of Creative Commons, an organisation founded by Lessig. For a more in-depth critique, see the article "Out of Sight and Out of Mind" by Eva Hemmungs Wirtén in *Cultural Studies* 2-3/2006.

The comment on participant culture is aimed at those definitions of a similar kind that were given during 2008 in two Swedish books. The first in the chapter "Fri kultur" in Johan Söderberg's book *Allt mitt är ditt*. The second in the anthology bearing that very name, *Deltagarkultur*<sup>19</sup>, written by a collective of authors from Interacting Arts which consists of Kristoffer Haggren, Elge Larsson, Leo Nordwall and Gabriel Widing. Both of these books were commented on in greater depth on Copyriot 6 September 2008 and 12 August 2008.

35.

The Swedish term *Oljekrönet* refers to what is called "peak oil" in English. It was introduced by Daniel Berg in the article "Bortom petroleum?" in *Ordfront magasin* 7-8/2008. Two books that develop the question into directions that have particular relevance for this context are John Michael Greer's *The Long Descent* and Allan Stoekl's *Bataille's Peak*.

36.

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<sup>17</sup> Archive Rumbings.

<sup>18</sup> Approximately: "The revenge of the unlicensed craftsmen?" Historically, Sweden had a system of guilds into which craftsmen were organized. Workers carrying out a regulated trade illegally without being guild members were called *Bönhasare*. This word is now archaic.

<sup>19</sup> Swedish for participant culture.

Regarding the difference between two kinds of randomness, see the book *Words Made Flesh*, released on the net, by Florian Cramer.

37.

Regarding automated recommendations, see sections 15-18.

38.

The point of departure of this section is the well known music service Spotify.

39.

Unfortunately it is hard to give good examples of the postdigital music criticism that is solicited here.

40.

"*Men utan ett innehåll skapat av människor blir de nya elektroniska autostradorna tomma spökvägar.*" (Without content created by people, the new electronic superhighways will be empty ghost lanes.) (*Stim-nytt* 2/1994)

"*Å andra sidan ska ju konstnärer, underhållare, programmerare och ingenjörer ha betalt för sina ideer, annars upphör flödet och vi sitter där och fingrar i tomheten i cyberspace.*" (On the other hand, clearly artists, entertainers, programmers and engineers should receive payment for their ideas, otherwise the flow stops, and we'll be sitting there, fingering emptiness in cyberspace.) Lars Weiss in an editorial in the Swedish daily newspaper DN, 15/1 2008.

41.

The machine that prints paperback books is called Espresso Book Machine. It was discussed in a couple of entries on Copyriot 19 March 2009 and 25 March 2009. The discussion led Carl-Michael Edenborg to establish the distinction of a stop and a flow that is made here.

The related question of the role of libraries is discussed in my article "Den postdigitala vägen" (The postdigital road) in the Swedish daily newspaper *Sydsvenskan* 23 August 2009.

42.

For a discussion of honesty as the greatest strength of participant culture, see Johan Söderberg's abovementioned book *Allt mitt är ditt*.

43.

The answer to the final question is related to the question of a postdigital music criticism (section 40).

44.

On affects as physical movements of the body, see Brian Massumi's book *Parables for the Virtual* and Fredrika Spindler's book on Spinoza.

45.

From the perspective of general economics, Georges Bataille observed, inactivity is the simplest imaginable act of sacrifice. Yet, he returned to the question of how it, in some sense, is impossible to simply let time pass.

"The function of theatre is to make time pass," Heiner Müller said in one of his last conversations, retold by Alexander Kluge. "Time passes, so that the eyelids may

eventually collapse. At some point, the day has to come to an end. To put an end to it is the function of theatre."

This thematic is also developed by the abovementioned Hans-Thies Lehmann and Hans Ulrich Gumbrecht.

46.

Birds take place by singing.

47.

Is this a definition of music? No, because music is far from the only activity that has the ability to gather crowds, take time and take place.