Music, the Digital, and Ethics

A case study on uniqueness, values and responsibility in digital music.

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Abstract. The digital is a new realm of human action and demands ethical analysis. The purpose of this paper is a philosophical case study that identifies the digital as a non-natural epistemological and ontological realm, that demands a special interpretation of human actions in it, because it is almost "value-free" and this enforces at least a reinterpretation of artistic values (e.g. music), as well as moral values (e.g. for consequences of human deeds) in this "digital world". Actions in the digital realm, or actions helping to build the digital realm, show fundamental differences to natural actions. I argue that the digital is a remote consequence of human action and as for its axiological austerity and its lack of natural categorical barriers, humans do have a clear and absolute responsibility for actions in the digital, as well as for building the digital realm.

1 Music, the Digital, and Ethics

Radiohead, a band that sells millions of records,[1] made their album (release date 10.10.2007) available for free download on their website,[2] but still people were "stealing" it, according to Andy Greenberg on Forbes.[3] This raises the question of how you can steal something that is given away for free,[4] and what it actually was, that they "stole".

This recent event carries three main characteristics, namely music, digital and ethics, that are relatively new in this constellation and will be further examined in this paper. Music can be digitalized – Radiohead offer 160kbps stereo mp3 files of their music to download[5] – and this "digitalizing" opens up new options of human action. That means new options to do good or to do bad and therefore a demand for research regarding the possibility of morally right and wrong actions.

No definition of music, digital or ethics will be used in this paper that could be called complete or final in any way. To stick with the topic all terms will just be defined as far as needed and due to the limitations of this paper, must stay not much more than outlines.

1.1 Limits of Music

What are the basic features of music? Music as art "is least able to present to the hearer a definite train of logical thought"[6] as Halbert H. Britain pointed out in 1904, because it is more primitive than speech. Iegor Reznikoff's anthropological research allows the conclusion that we can hear music long before we can speak or are even born, because "the brain areas mainly concerned with sound perception and those concerned with speech are not the same. Listening to a sequence of sounds is more primitive in our consciousness than listening to a sequence of words."[7]

In this way music itself is limited and Jerrold Levinsons suggestion "that we directly hear the composer's thought in the musical process"[8] is therefore steering away from the actual historical process of learning to hear music. We may find patterns in the music, that are in some way symmetric and that may be what makes us belief them to be the result of someones "thoughtful act". But the meaning we gain, by comparing pieces of music we already know with new pieces, is historical-intellectual and doesn't refer to the music as such.

In these "thoughtful act" cases, music is just used as a medium for something else and we may wonder about how it has been translated and what is meant, but this actually drops the primordial meanings of music.[9] This doesn't mean music is just a biological trick to get your genes transferred, as Darwin suggested, but more likely that it was developed to express simple feelings, as Herbert Spencer put it in rejection of Darwin.[10]

Music may trigger an emotional or even a direct bodily reaction, if it is sudden and loud for example, and theses primordial meanings of music can conglomerate with historical-intellectual meanings, like the text of a love poem. This opens the possibility of propaganda and more morally problematic though maybe still beautiful actions.

1.2 Repeatable Music

Music as original art isn't repeatable. Its first, or debut performance might be set as original. Everything that is "in time" has an original first appearance and as humans we can hardly imagine anything without "time", because our thoughts themselves are shaped by it. Everything "in time" is unique in this severe interpretation. And of course you can't repeat something, if there isn't an original in the first place. But unlike a painting, that can be looked at and is barely changing in years, music itself is always "in time" and often defined as "organized sound"[11]. Sound is a vibration of matter and therefore spatial[12] and a vibration needs time to, well: vibrate. Rhythm can be similarly defined as "temporal organization of prominence"[13] and this makes music an occurrence, that carries its own simple structure by a beginning and an end in time. This is the most basic symmetric form of music: that of a beginning and an ending point in time that is organized by sound. This most basic *from-A-to-B symmetry* is also the beginning of its historical-intellectual meaning.

But what Radiohead offer for download, aren't sound waves or concert tickets – they offer digital copies of their recorded music. But what is "digital" music?

2 What Is Digital?

Leaving, for the sake of shortness, the history of computing aside, as well as other applications of digital technology, it is sufficient for the present purpose to focus roughly on modern personal computers and the Internet.

An Assembler is a program that enables communication between hardware and software. With an assembler humans can write commands in "machine code" and thereby tell a processor what to do. The machine code consists of something that can be read as '0's and '1's. Following Carnaps notation a term will be set in ' ' to distinguish it from its content (the town Paris and the word 'Paris').[14] Basically it's the same idea as in a player piano that Conlon Nancarrow used, where a paper roll was perforated to be read as a single note, while no perforated hole was interpreted as silence.[15] "Digital" might be defined as follows:

> Digital or discrete information devices manipulate *data elements* that have a finitive set of discrete values. Each data element is defined by at least two attributes: a name that sets this element apart from the rest, and a value. For example, a data element representing a bit of information can take only one of two values, namely 0 or 1.[16]

As in this example, the machine code is most likely to be the "binary code" that interprets sequences of electrical impulses ('0' and '1') as simple mathematical commands and rules how to write new sequences of '0' and '1'.[17] In modern personal computers for example, the '0' and '1' are electric charges that reach a special gate of the processor and lead to the output of rearranged charges that result in writing new rows of '0' and '1'. The basic processing functions are mathematical, logical and spatial (where to find and where to write the data).

2.2 The Limits of the Digital

To sketch only two main philosophical approaches to technology, one being phenomenological and the other (empirical-) analytic philosophy, we already achieve two main characteristics of the digital.

As an example for phenomenological concerns about technology and digital technology in particular, Aden Evans follows Heidegger's criticism of technology, that "modern technology has a measure: one applies technology in order to" and "modern technology does not take its cues from presencing or truth; rather, it sets upon the world, ordering that world to make it available for human being."[18]

The contrary standpoint results from a logical-positivist view, like the one of the early Wittgenstein, or Rudolf Carnap.[19] The digital world with its reductionism to '0' and '1' and the processing rules is strikingly similar to Carnaps attempt to produce a "correct" language, in which every sentence is either right or wrong, build according to logical rules and doesn't contain (unexplained) metaphysics.[20] This intended truth-value reductionism of the digital worlds creates metaphysical problems, if digital "things" are supposed to have a value of their own.

2.3 The Unique and the Repeatable

Blocking the "truth" or not containing "metaphysics" are the main limits of the digital from within the view points of phenomenology or logical positivism. This leads to a basic ethical and artistic problem. According to both approaches, the digital can't contain unique values. It can only be unique in a moment of passing time, but everything is unique in this way. The possibility of non-unique entities "in time" are necessarily non-human, because humans are necessarily "in time" and their knowledge of death, or "Being-to-Death" as Heidegger put it, is one of the basic features that makes humans equal and coevally exhibits their individuality. "Death" is for a human being "*eigenste* Möglichkeit des Daseins"[21] that may even be the grounding for human values. To iterate Heideggers thought: everyone faces death, but everyone faces their own death and their very own fear of death can't be shared with others and shows their uniqueness.

The basic principle of the "digital world" is the identical reproduction of "digits" and its ontological austerity. Digits are repeatable and not unique. As everything can be used to read '0' and '1' *from* it, this is one of the few metaphysical-ontological assumptions used for modern computers: that there *is* only 0 or 1 to be read, no matter what data storage medium is used and that reading, processing and writing are the basic *absolute* principles in this new world.

As the possibilities of intrinsic values of the digital seem to be blocked, all value judgments on digital things lead back to its creator: human mind and action.

3 Why Is Digital Music Ethically Relevant?

The word "digitus" is Latin for "finger" or "toe". Aden Evens analyses fingers as "primordial digits"[22], but he doesn't distinguish between what is digital, and what it represents and thereby mystifies it. Another Heideggerian analyser of the digital, Rafael Capurro, is even talking about "artificial digital agents"[23]. Both interpretations conceal the origin of the digital: human mind and action.

The digital is not primordial like the human fingers and toes. The digital world is a non-natural realm of an applied will out of the human mind, that exists as remote consequences of his actions (and all computing could theoretically be done by a patient human, if they would live long enough[24]). It is Carnaps Dream and Wittgensteins Prison[25] that consists of working rules and operators that are almost without (metaphysical) meaning. The digital is so artificial and shaped so much by human actions, that we can't imagine anything being more "human" (although it may be "untrue" according to Heidegger). The digital world is created by, with and for humans and is only used by them.

If now, as in the introductory example of the "stolen" Radiohead album, the digital is believed to be not only the bearer, but the object of a piece of unique human art, in its digital form as valuable as the original, the topic of digital music seems to open up a whole area of new values, actions, art, self-fulfillment and maybe even morals – the urgent need of ethical analysis seems evident.

3.1 Unlimited Digital Ethic

Actions in the digital world are not conditioned by time and space as "natural" actions are. The reproductiveness and the machine code allow for numerous storages of data to anything that can be interpreted as '0' and '1' – and even the mere existence of something can be read as '0' and the non-existence as '1', as with the holes in the paper roll of a player piano. Therefore the digital may have one moral value of its own, because it expands human freedom of action and according to Alan Gewirth's point of view, "freedom and well-being" are "constituting one's capacity-fulfillment" and everything that expands human freedom may be called good.[26]

There are *no categorical barriers* for recording a human action in the digital world and reviewing it. An assembler may even translate the machine code to every spoken human language and in that sense "everyone" can review the actions "everywhere", at "any time".

The new problem of actions in the digital world is the absolute responsibility for one's actions, that emerge from the fact, that the digital world is man-built and not natural: all consequences can be foreseen in the digital world, if it wasn't for its complexity that often exceeds human abilities to realize. The limit of the digital world is the limit of the human mind and its capability to reflect its actions. But as the digital world is built by humans, the responsibility for his actions as well as *for how it is built*, lies *absolutely* on humans. In the digital world there is no room for metaphysical speculations about what is and what is not, because it could be simply looked up what sequence of '0' and '1' is written on the data-storage device. As a computer only uses the (logic, mathematical, and spatial) processing rules given by humans and only reads '0' and '1', there is no room for doubt about a soul, a god or ontology, or other metaphysical speculations, because *digital* means, only '0' and '1' will be read, no matter what there *is*.

3.2 Music without Time and Space

Following this, the responsibility for Radioheads album being "stolen" lies with Radiohead. Of course they didn't know what would actually happen when they decided to use this new way of distributing their album, but by doing so they are participated in shaping the possibilities of action in the digital world. They could have set up a system of digital distribution that wouldn't allow the album to be "stolen", or even given away for free. The problem with theses techniques is, that they have basically nothing to do with music and may not be the best solution to distribute an album at all.

But digitalizing an album is more than just changing the framework of a piece of art to satisfy financial needs. Digital music is something different from a concert or even an analogue recording of music. It has become totally reduced to '0' and '1' and processing rules and by entering this digital realm it has become a copy, that can't be distinguished from other copies or even a digital "original". It isn't actually music, but a notation for it, that disenchants all the primordial and emotional meanings of music[27] to be reducible.

The only values of the digital are the distant consequences of human actions, that build the digital, and its value as an instrument of expanding human freedom.[28] At the end of this (at least) double translation, from a performance to a recording, to machine code, to a "copy performance", there is something clearly different from the non-digital "original performance".

Instead of an easy explanation or solving the problem, we have now reached a fundamental contradiction of the digital world. A contrast between the possible absolute responsibility of human actions, because they are in a human made, artificial, logical world that can be altered as humans please, against an absolute non-originality that makes literally everything in the digital world the same. Digital "things" can be copied, reproduced, reviewed and don't even necessarily have to decay or reach a definite end like natural "things" and therefore no "Being-to-Death" that could make them unique. But responsibility needs to be taken by a human actor who is, as a human being, unique as an individual in his deeds.[29]

Digital music is a new challenge for the human mind. It is a new field for the historical-intellectual interpretation of music and a place of total responsibility, that refers to humans only and can't be dispensed to an unknown creator, or unknown properties of nature, because the digital ignores ontology and sticks to reading '0' and '1', whatever may happen. A non-digital recording, like on tape or LP still is a unique product, because the content on these music-storage devices is (however so slightly it may be) changed by the material it is stored on. LP's and tapes change their form with rising and falling temperatures and by this they also change the musical content on them (given, of course, they are analog recordings and not digitalized). In contrast, digitalized content can get lost, but is normally unchanged, and is not made unique by its storage device.

This leads to the conclusion, that *digital music* is basically *non-unique music*. The notion of music as a performance has to be reconsidered in this way, because digital music that is not a translated analogue performance, but created digitally, doesn't have an original first performance. So digital and non-digital music are clearly different and should always be distinguished, if the question of values, or even (moral or judical) responsibility comes up.

So the preliminary conclusion of this paper is: no one stole from Radiohead, as it was in their hands how to set the rules for distributing their digital copies. The question remains, if they knew about the difference in their original performance (in the studio, for example), the digital copy and what they intended to produce as artists. Was it an original unique work, they wanted to create, or some rows of '0' and '1' that their work was reduced to? Or did they reduce it only in order to distribute it?

In both cases they are responsible for the consequences of how they acted in the digital world and how they participated in shaping it. It is our task as humans to decide how clear we want the path's of human responsibility to be shown in the structure of the digital world and how much we want it to show a "mysterious" complexity that we can't to understand.

At the end of this paper, just let me sketch another point, that follows from the foregone considerations and urgently needs further research:

Taking digital responsibility serious means: programmers and robotic engineers are responsible for everything "their" artificial intelligence "does". When they build an AI, that makes use of the digital, everything it "does" can be recorded, or set into an

environment where all its actions can be predicted. For example, more powerful computing devices could be used to predict and record the "actions" of an AI, than the AI itself has available to "act". A machine inside a machine, so to speak. Which would surely be unsatisfying for the AI creators, but it is something that is absolutely impossible to do for human "natural" actions. Parents are not responsible for all things their kids do, because they don't know all "valuables" of kids and their nature, but AI creators can build such an environment, and because of this possibility, are totally responsible.

To speak in Kantian terms: it seems we are humiliated by our new possibility of "holy actions" in the digital realm that abase us even more than the "holy will"[30] does to our desires.

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