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Research article

Industrial Music, Noise, and the Sound of Machines

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Abstract
The industrial revolution gave rise to many new, previously unheard sounds. The howling and grinding of machine tools, the rhythmic blows of jackhammers – all these sounds began to accompany everyday life for many people. Their life was filled with "machine sounds." At this moment, „Industrial" was born as a genre of music. Its main feature was that the musical instruments were replaced by the noises of factories and trains familiar to ordinary workers of that time – the sounds of the New Era. The resulting music carried a rebellious character, it was rather dynamic and rhythmic, allowing the composers and producers to show the progressiveness and variability of the world which manifested itself in the mechanization of production. After having fulfilled its initial function, Industrial music was initially forgotten, taken up by other, more contemporary musical genres, some sounds borrowed by electronic music. We analyze many compositions from the early days to contemporary Industrial music, here discussing as striking examples Psyche Rock, Strette, Third Reich from the Sun, considering also the mechanical sounds that form the basis of this genre: guillotine, mechanical press, lathe. Technical sounds in industrial works are not only a complementary part of the work, in some pieces they also occupy a dominant position. We also show that compositions of industrial music can cause completely different emotions. For example, compositions of the Noise style mainly evoke a sense of frustration, the inevitability of failure. Aggro Industrial inspires people to act, gives them a feeling of close victory. Deaf and distant sounds in Percussion Industrial induce a sense of alarm, confusion. We also trace the chronology of the appearance of certain mechanical sounds in music. So, in the earliest works, for example, performer use the sounds of a guillotine cutting metal. In other works one can hear radio or TV interference. One can also hear absolutely modern sound, familiar to all of us from contemporary technology, such as sounds of a microphone.

Keywords: Industrial revolution; Machine sound; Industrial; Mechanical sounds; Noise; Music

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Научная статья

Индустриальная музыка, шум и звук машин

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Аннотация
Промышленная революция породила множество новых, до этого не встречавшихся звуков. Вой и скрежет станков, ритмичные удары отбойных молотков – все это для многих людей стало олицетворять повседневность. Их жизнь была наполнена “машинным звучанием”. В этот момент и зародился такой жанр музыки как Индастриал. Основная особенность его заключалась в том, что музыкальные инструменты были заменены на привычные простым рабочим того времени шумы заводов, фабрик и поездов – звуки “Новой эры”. Сформировавшаяся музыка несла в себе бунтующий характер, характеризовалась динамичностью, ритмичностью, что помогало передавать авторам прогрессивность и изменчивость мира, которые проявлялись в механизации производства. Выполнив свою первоначальную функцию, Индастриал музыка постепенно забылась, растворилась в других, более современных музыкальных жанрах, некоторые звуки были переняты, заимствованы в электронную музыку. Мы анализируем множество композиций от ранних дней до современной индустриальной музыки, обсуждая здесь в качестве ярких примеров Psyche rock, Strette, Third Reich From the Sun, а также механические звуки, составляющие основу этого жанра, наподобие: гильотины, механического пресса, токарного станка. Технические звуки в произведениях индастриала могут являться как дополняющей произведение частью, так и занимать главенствующее положение. Композиции индустриальной музыки могут вызывать совершенно разные эмоции.. Так, например композиции стиля Noise, преимущественно, внушают слушателю чувство разбитости, неизбежности провала. Aggro Industrial внушает людям мотивацию к действию, даёт им ощущение близкой победы. Глухие и отстранённые звуки в Percussion Industrial внушают тревогу, смятение (Einstürzende Neubauten – Tanz debil). Мы также прослеживаем хронологию появления тех или иных механических звуков в музыке. Так, наиболее ранних произведениях, к примеру, используются звуки гильотины, разрезающей металл. В других работах слышны можно услышать радио- или телепомехи. В музыке индастриал можно услышать и абсолютно современные, знакомые всем нам звуки техники, например, звуки микрофона.

Ключевые слова: Индустриальная революция; Звук машины; Индастриал; Механические звуки; Шум; Музыка

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INTRODUCTION

Technologies changed the life of a modern person in many aspects, including changes of the soundscape and introducing a new kind of noise that differs from the sounds we know from nature and human daily life. Although mechanisms could creak and groan even before the industrial revolution, this revolution was the reason for the birth of a variety of sounds that accompany a person in factories, streets and later in houses.

The first theoretical mention of the inclusion of industrial noise in music can be considered the manifesto of the Italian futurist Luigi Russolo "The Art of Noise," which was published in 1913.

The sounds of machines in the twentieth century actively penetrated into a variety of musical compositions. There was an industrial direction, electroacoustic music (in which coughing can turn into the sound of a starting motor or car beeps turn into a game of wind instruments).

Figure 1. Arseny Avraamov conducts the *Symphony of Sirens* using flaming torches. Moscow (1923)

The famous Russian director Dziga Vertov, in his youth dreamt of the project of a Hearing Laboratory: "One day, in the spring of the 18th, returning from the railway station, I heard the rumbling of a departing train in my ears. Someone pronounces an oath, a kiss, someone makes excuses. Laughter, whistle, voices, the sound of a station bell, a puffing steam locomotive, whispering, crying, farewell. I thought to myself during the walk: I need to find equipment that will not describe, but record, photograph these sounds. Otherwise, there is no way to organize, edit them. They run into the past like time" (as cited in Safonov, 2017).

In Russia Industrial music is associated with the name of Boris Yurtsev, who proposed in a 1920 article "Orchestra of Things" the idea of creating a device for each branch of a noise orchestra using production materials, which were specific to it. Thus, according to Yurtsev's idea, the instruments of the orchestra of

metalworkers should consist of various combinations of steel, copper, cast iron, etc. (Dudakov-Kashuro, 2015).

Despite Yurtsev's creative approach, his ideas have never been translated into reality, although many different works have entered the history of noise events, the brightest of which are Eisenstein's last theatrical production *Gas Masks* and the *Symphony of Sirens* (1922) by Arseny Avraamov (fig. 1).

Kurt Vonnegut's (1974) novel *Player Piano* of 1952 describes how the sound of machines becomes music:

> At the door, in the old part of the building once more, Paul paused for a moment to listen to the music of Building 58. He had it in the back of his mind for years to get a composer to do something with it – *the Building 58 Suite*. It was wild and Latin music, hectic rhythms, fading in and out of phase, kaleidoscopic sound. He tried to separate and identify the themes. There! The lathe groups, the tenors: „*Furrazz-ow-ow-ow-ow-ow-ak! ting! Furr-azz-ow-ow*...“ The welders, the baritoners: „*Vaaaaaaa-zuzip! Vaaaaaaa-zuzip!*“ And, with the basement as a resonating chamber, the punch presses, the basses: „*Aw-grumph! tonka-tonka. Aw-grump! tonka-tonka*…“ It was exciting music, and Paul, flushed, his vague anxietes gone, gave himself over to it. (p. 19)

Noise is something disturbing, irritating, unlike music that gives harmony. David Novak (2015) calls the noise as “a keynote sound of industrial development and mechanization.” At the beginning of the century, Luigi Russolo claimed noise as the basis for the future of music and stated that intense, prolonged, and varied noise sounds were only possible in the modern era due to the proliferation of machines: “Ancient life was all silence. In the 19th Century, with the invention of machines, Noise was born. Today, Noise is triumphant and reigns sovereign over the sensibility of men” (Russolo, 1986, p. 23). Russolo himself created many noise mechanisms, such as the Whistler, Fuse, Kwakun, and others. Each of them was designed to extract one type of noise. Jacques Attali (1977/1985) adds to this by declaring:

> All music, any organization of sounds, is thus a tool for creating or uniting a community […] This is what connects the center of power with its subjects, and thus, more generally, it is an attribute of power in all its forms. Therefore, any theory of power today should include the theory of localization of noise and its endowment with form. Among birds, a tool for marking the boundaries of a territory, noise is inscribed in the arsenal of power from the very beginning. (p. 6)

LITERATURE REVIEW

The genre of Industrial music is radically different from all other musical styles. It does not use classical music or rule-bound structure because the whole composition is built on the basis of the author's ideas.

Mick Fish notes that with their noises, cut-ups, walls of sound, ethnic strains and synthesized bleeps, the early Industrial groups were awash with the flotsam and jetsam of modern life. A snapshot in time. It wasn’t that different from the Dadaists and surrealists

of the twenties who had jumbled up and reassembled their version of reality (Fish, 2002, p. 189-190).

David Novak is the one who gave the best and most comprehensive description of noise and it's meaning: His studies have found in noise a subject of deep fascination that cuts across disciplinary boundaries of history, anthropology, music, literature, media studies, philosophy, urban studies, and studies of science and technology. Noise is a crucial element of communicational and cultural networks, a hyperproductive quality of musical aesthetics, an excessive term of affective perception, and a key metaphor for the incommensurable paradoxes of modernity. "Wherever we are," John Cage (1961) famously claimed, "what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating" (p. 3). We hear noise everywhere. But what do we listen to when we listen to noise? What kinds of noises does "noise" make? (Novak, 2015; Webb, 2019).

In information theory, noise opposes organized communication and is understood as a hindrance. Yuri Lotman emphasizes its entropy and attributes all types of destruction to noise. Noise is "the intrusion of disorder, disorganization into the sphere of structure and information" (Lotman, 1998, p. 84). At the same time Lotman notes that a person is able to transform noise into information. It "complicates its structure due to correlation with the external environment," and "everything foreign that can correlate in one way or another with the structure of the author's text ceases to be noise" (Lotman, 1998, p. 85). The transformation of "noise" into artistic information comes with the inclusion of non-artistic factors in another – artistic – reality and allows one to hear music in the clink of a spoon in a glass (as Sartre wrote), in the creak of a door (as Heidegger points out), in the squeak of a weak mouse (in Kafka's "Singer Josephine, or the Mouse folk").

At the same time, we must not forget that the opposite of noise is not music, but silence. As Jacques Attali (1985) notes, "Our science has always sought to track, measure, abstract and castrate meaning, forgetting that life is full of noise and that only death is silent: the noise of work, the noise of man and the noise of an animal" (p. 3). Therefore, industry in opposition to music expanded its boundaries, mixing technology and art: Pascal Bussy (2005) writes that "The German Krafwerk Group […] illuminat[ed] the path to a more technologically motivated future" (pp. 17-18).

METHODS

A study of the genre was conducted as part of our exploration of the sounds of technology in Industrial music. We have identified several directions in it such as Noise, Aggro-Industrial, Concert music, etc. In each of them, we listened to 8 to 10 tracks which served as the basis for further research (we compiled criteria based on 60 to 65 units of tracks listened to). For each of the styles or directions of Industrial music we determined which sounds are most often heard in the tracks, what influence they have on the listener, to which epoch the sounds belong. This allowed for a comparative analysis of the selected tracks.

THE BEGINNING OF "INDUSTRIAL" MUSIC AND ITS SOUNDS

The beginnings of Industrial music date back to the beginning of the 20th century. However, the emergence of "Industrial" as a clearly separate genre of music occurred only in the second half of the same century in Germany and the USA A great variety of sounds were used in those compositions: blows on heavy metal with hammers (both jackhammers and conventional ones), timpani (rarely a simpler replacement in the form of empty metal barrels was mainly used instead of them), early types of synthesizers, metal clanging, the rumble of iron beams falling on concrete, machine-like electronic oscillators and psychedelic pop rhythms that differ from modern, more familiar ones. The combination of such instruments created an unusual feeling for listeners, since rock music was already commonplace at that time (Beckett, & Fairley, 1944; Hanley, 2011; Harrison, 2017; Howard, 2017).

Industrial and Post-Industrial Music

The definite formation of Industrial as a genre is associated with the names of the bands Throbbing Gristle (founder of Industrial Records), Cabaret Voltaire, and SPK, as well as musicians Boyd Rice and Z'EV (fig. 2).

Figure 2 Stefan Weiser – Z'EV. Preparation for the performance with the album "Production and Decay of Spatial Relations," where all kinds of pipes and fittings were widely used (1981)

For example, in the compositions of the pioneering Throbbing Gristle group there are hard aggressive rhythms, on top of which distorted noise samples are superimposed, which were not used before in the works of other initiators of Industrial. Industrial musicians immediately applied all available innovative technological solutions and invented their own mechanisms and technologies.

The German group "Terrorfakt" can also be distinguished among the notable figures of early Industrial. Unlike many other bands, that used more "primitive" instruments, "Terrorfakt" at their concerts resorted to using construction drills, sheets of iron, saws, sometimes small concrete mixers along with traditional rock tools. At the same time, the sounds of guitars and bass were repeatedly distorted, and the vocalist's voice was also processed.

Over time, like any other style of music, Industrial was divided into many

different directions, putting an end to the era of "classical Industrial" and starting a new "post-Industrial" era (Broqua, C., & Douris, 2018; Reed, 2013).

Despite the aggressive nature of Industrial music itself, one finds quiet melodies among the post-Industrial compositions, the use of machine sounds in them is noticeably less. Basically these are works of the Ambient genre, the main sound in which are the sounds of synthesizers, a piano, utilities, as well as, quite rarely, male or female voices.

Another direction is Dark Ambient. The similarity of these two directions is quite understandable: If Ambient tries to convey the entire palette of colors, Dark Ambient paints everything black with the sounds of cracking and breaking glass.

Aggro-Industrial and Percussion Industrial are some of the directions closest to the era of classical Industrial, involving a large number of industrial sounds. Among them, the sounds of sirens stand out, also radio and TV interference, the work of the press at the factory, circular saws, machine tools, glass breaking and much more.

The direction of Noise is the brightest representative of the "post-industrial" era, at the same time it preserves the ideological heritage of Industrial music. Here we can find pronounced distortions of sound, the work of old mechanisms, machine tools, industrial presses, as well as interaction with both Aggro-Industrial and Percussion Industrial music.

Boyd Rice, a pioneer of Noise, was involved in the construction of noise generators and various strange instruments. For example, he made a guitar with a fan attached to the strings. His first disc had 3 closed tracks, the next two discs had from two to four holes, several closed tracks and a recommendation to listen to the disc at different speeds.

Misique Concrete is one of several other representatives of "post-industrial" music. It tries to resemble Ambient and carries a slightly different content. This can be traced to the use of similar instruments such as piano or synthesizer. However, the sound of these instruments is used in a distorted form, without creating a kind of holistic composition, more like trying to learn how to play these instruments. Nowadays, Misique Concrete is more like an offshoot of jazz music, although in this direction it is quite possible to hear sounds characteristic of Industrial, such as the tapping of iron pipes or tin dishes, as well as industrial hum, knocking and crowd sounds.

In 1926 composer Vladimir Deshevov worked on the music for a theatrical production called Rails in the genre of melodrama. One result was a laconic, but unusually expressive piano miniature. This is one of the first examples of railway music in Russia. In Rails the rhythm and movement of machines was depicted by musical means and sound editing was used along with orchestral music. In the piano piece, Deshevov put paper on the strings of the piano for a muting effect, thus using "prepared piano" long before it became a staple of avant-garde artists. In the USSR, the album of the Center group One-Room Apartment (1983) can be called the first record in Industrial style, because one of the pieces (1 minute long) represents an elevator ride ("Movement"). In 1985 the *Nochnoi Prospekt* group was formed which began in the techno-pop style but quickly moved towards classic Industrial. Around the same time, the avant-garde composer Sergei Kuryokhin put together a Leningrad performance project, Pop Mechanics, which is quite close to industrial aesthetics. On a tour in Sweden, along with the artists there was a stock of vehicles on stage – trucks, vintage emki cars and even a tank.

Sounds of Industrial

The non-standard and atypical sound of Industrial music is due to the choice of sounds in it. One should first highlight the basis of all the different directions of Industrial and only then tend to the specific features in each of them to better understand the approximate use of these sounds.

One basic feature is the use of very loud sounds which very often try to drown each other out, creating a feeling of some kind of competition between them. Moreover, Industrial music, despite the difference of its various directions, constantly evokes associations with something turbulent, for example, war or senseless cruelty, which was the primary basis of Industrial in its very first manifestations with their provocative themes (Kerr, 2005; 2010; Lockwood, 2013).

As for the use of specific sounds in music, everything is more narrowly focused here. The directions of Aggro-Industrial and Noise remained true to the original sound of Industrial, which continues to use extraordinary tools like the work of a press in a factory, a lathe or the sound of metal cutting. Undoubtedly, similar sounds are found in other musical styles, but they are less pronounced and rather serve as auxiliary elements and not independent sounds.

ANALYSIS OF THE USE OF NOISE TECHNOLOGIES IN MUSIC

The sounds of technologies used in musical compositions can vary greatly in a source, influencing the overall composition, the effects it produces, moods, etc.

In some directions of music only certain noises are used. Due to the freedom that Industrial music provides, it is difficult to predict which of them will be used. The list of possible sounds is huge, ranging from the simplest blows of a jackhammer to the work of various kinds of machines and presses. However, the key factor is still the mixing of these most incongruous sounds into one beautiful noise. The common feature is that the original intent of these various noises leaves the listener no chance for final and unambiguous conclusions.

Kinds of Machine Noise

It is worth noting that in addition to the above differences, the compositions vary in volume and intensity. One of the largest spaces is occupied by Noise. This style withholds musical harmonies, subjecting the listener to chaotic sounds. This includes the sounds of the grinding of old mechanisms or gears used in the creations of A Place to Bury Strangers or Melt-Banana. However, there is also music that uses loud sounds like a slot machine or a guillotine cutting metal, but these sounds are usually presented only at the end of the piece.

Concrete music is similar in frequency of noise use, but unlike Noise it does not reject the presence of musical instruments. Thus, Pierre Henry's composition *Psyche rock* is the clearest example of combining percussion and wind instruments with the whistling, clapping, ringing of bells. The leading sounds of Concrete music were blows – blows on metal, sounds of falling iron objects, or breaking dishes. In addition to the above, the music of Concrete music is characterized by knocks, shouts or exclamations, and sometimes even

the sound of a hair dryer or a steamboat horn, also presented by Pierre Henry in collaboration with Pierre Schaeffer in the composition *Strett*.

Industrial sounds occupy the central place in Dark Ambient. This style is not characterized by a classical sound or structure. On the contrary, performers who create music in this style use low-frequency sounds. This included the sounds of heavy machines, wind generators, fans and reciprocating compressors. These sounds can be heard in the creations of Kunst Grand, Raznolik, and Lustmord. However, there are also Dark Ambient compositions in which loud, noisy and harsh sounds are used. We identified the sounds of a sledge hammer, which is used to break through a brick wall, the sounds of a circular saw, which is cut into metal, or the sounds of a grinder.

A special place in Industrial music is occupied by Percussion Industrial, namely a style consisting entirely of noise. The mechanical impacts of a wide variety of machines, the rattling of parts, the tapping of pistons and gears – all this forms the basis of this style of music. In Percussion Industrial compositions the noise is continuing throughout the piece, by which in this case we mean the sounds of blows and, rhythmicalle the main line. For example, the sound of a jackhammer is used closer to the middle of the composition, but the blows of a mechanical hammer, are repeated every 3-5 seconds throughout the piece, setting a powerful rhythm.

Another Industrial style, which serves to represent a certain “anti-music” is called Aggro-Industrial. This style can be characterized by “familiar” rock, with guitar “rhymed” accompaniment, but in addition there are many noises and mechanical sounds in the music. Some of the most popular sounds in “aggro” are various explosions and cracklings, these were accompanied by the sounds of Third Reich From the Sun, Hansel and Gretel, sirens and alarms, television and radio interferences. Morover, there are various blows on metal, and scraping on glass that causes an anxious and hostile state in the listener. Such a technique is often used by the 16 Volt band. You can hear a rather vivid manifestation of this in the track *And I Go.* These sounds are used to immerse the listener in an aggressive and excited state. To enhance the energy in the track some bands use the sounds of a conveyor belt, sharpening knives and clapping as, for example, in *Twilight Zone*.

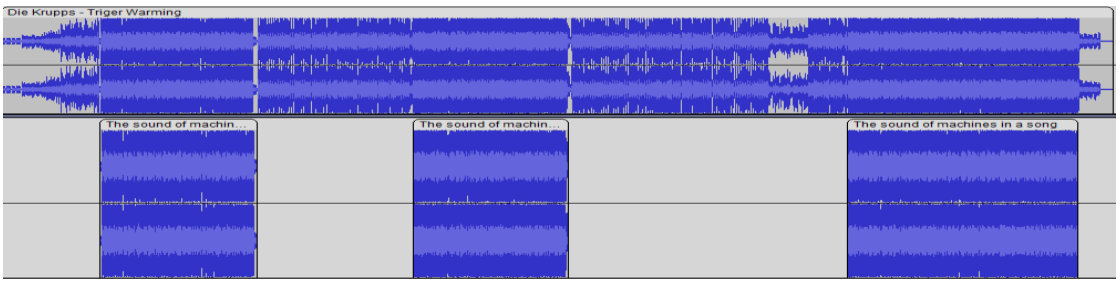

Figure 3. Soundtrack of the song by Die Krupps – *Trigger Warning*

For an overall view of the sounds of this music, consider the following three works:

Die Krupps – *Trigger Warning*. This composition is distinguished by a rather pleasant mix of male vocals together with industrial sounds like hammers or alarms. A special form of this song is given precisely by the sounds of machine tools and factory

press, which appear during the choruses and can be clearly observed on the music track (fig. 3).

The use of the sound of the press (fig. 4) noticeably increases the volume of the track itself, at the same time the work of the machines in the music increases its dynamics. The sounds preceding them are nothing more than an interlude between the choruses, setting the basis of the whole piece and helping the listener to feel it most fully, helping to experience a sense of power and authority.

Figure 4. A type of machine, the work of which is recorded and reproduced in Industrial music, sometimes modified and often left unchanged

A Place to Bury Strangers – *The Falling Sun*. This piece, unlike the previous example, goes against the concept of harmoniously sounding industrial noise, such as the sound of jackhammers or the constant fall of fragile objects and vocals. Here, the key role is given to guillotine metal cutting metal (fig. 5), which completely suppresses all other sounds with its sound, including the listeners, assaulting their state of mind.

Figure 5. An example of a guillotine which was used to record industrial music

The initial moments of mystery are replaced by the complete destruction and collapse of all veils of secrets. Listener experience real despair and confusion, complete destruction of their mental states, filling in with thoughts of failures and pain. It is worth saying that the sound of the guillotine, being the leading and loudest, occupies almost the entire space of the piece, which is noticeable when considering the soundtrack of the work (fig. 6):

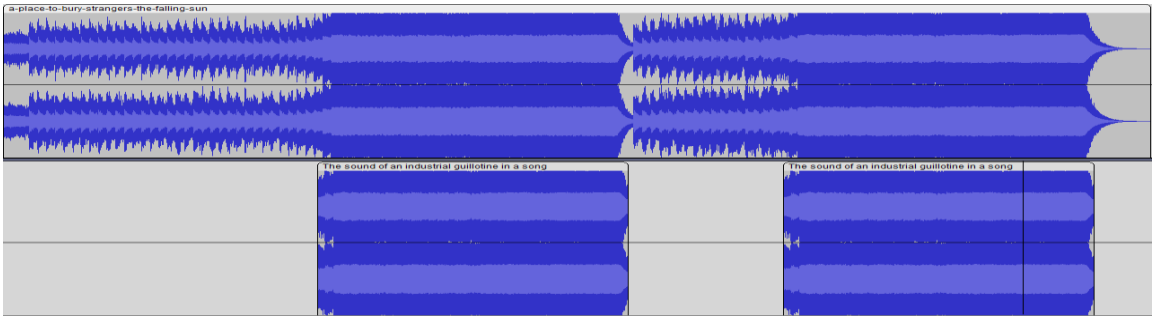

Figure 6. Soundtrack of the piece by A Place to Bury Strangers – *The Falling Sun*

Nurse with Wound – *Tune Time Machine*. The last (but not least) composition can be said to be an intermediate between the previous two examples. In it, the main emphasis is still on radio and TV interferences in addition to the use of the screeching of old mechanisms and motors. These are used as instruments, not as loud as other sounds, but used for their specific qualities, taking up almost the whole time of the piece, except for the beginning which features a brief monologue without recorded sounds. All the sounds

of the composition sound noticeably quieter relative to the other two examples. An example of the distribution of interference sounds is presented below (fig. 7).

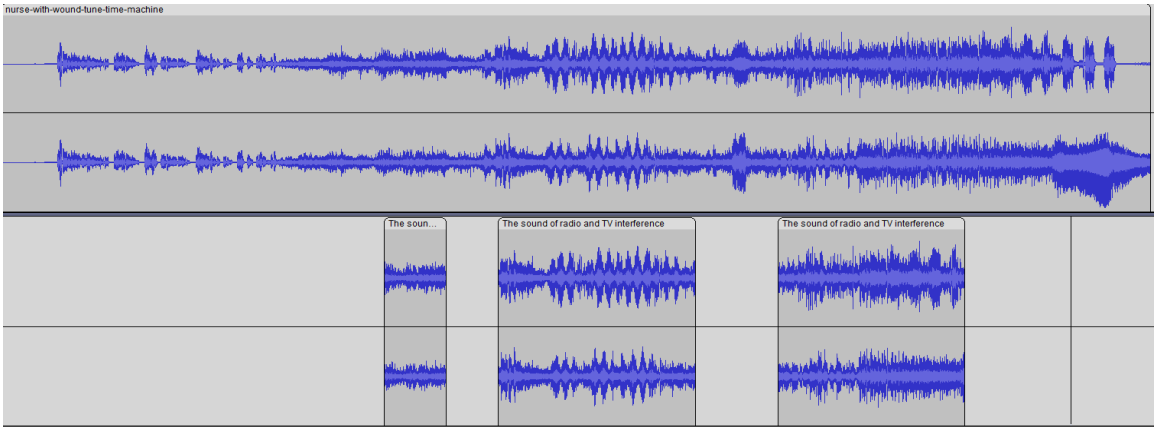

Figure 7. Soundtrack of the piece by Nurse with Wound – *Tune Time Machine*, the lower track shows the interference sounds, the upper track the piece in its entirety

By themselves, the interference sounds introduce a person into a state of alertness or even fear. But on the other hand, hearing human voices in these interferences, albeit slightly altered, provides a certain relief and a feeling that the listeners are not alone here, giving them strength.

Emotional IMPACT

The noise of Industrial music often carries a feeling of complete frustration and the inevitability of failure. The music seems to be trying to crush its listener morally and kill the last hope for success. This can be clearly seen in the work of such groups as Nurse With a Wound and Wolf's Eyes. Despite this, some compositions try to strengthen the spirit and give motivation to the listener to overcome life's obstacles. This is most noticeably reflected in the work of A Place to Bury Strangers and Boredom.

As we mentioned earlier, the composition *Psyche Rock* consists of an extraordinary combination of sounds, so the melody is quite dynamic, therefore it causes a sense of freedom and lightness. However, since almost all tracks contain beats, creaks and other harsh sounds, the emotional condition of a person listening to compositions in the Concrete style is for the most part quite disturbing, lost. Most of the melodies are associated with wartime, hustle and chaos. The composition *Prosopopee 2* leads to a condition of anxiety and danger.

Of course, the sounds that we can hear in various compositions of the Dark Ambient direction cause a huge palette of emotions. Consider, for example, the same loud sounds of a circular saw, a jackhammer and a grinder. As a rule, they are present at the very beginning of the track. These sounds carry a feeling of anxiety, anxiety, fear, some kind of fuzziness – the feeling that something dark and terrible will happen. Low-frequency sounds of heavy machines or fans have an absolutely different effect on a person. Such

sounds seem to calm people, tell them that everything bad is over, helping them sort things out. That is why, most often, they are used at the end of the track.

Aggro does not exist to amplify negative emotions. Some groups, such as Ministry, promote revolutionary ideas in their creations, seeking to awaken people's motivation and desire for future victories. Aggro sounds differently to everyone, yet each track exerts this power over the listener's consciousness.

Finally, Percussion Industrial compositions which are using such a type of mechanical sounds as beats, leave a mixed impression on the listener. A dull and distant sound leads to confusion, causing our thoughts to acquire an anxious state. The peculiar rhythmicity of the blows of a mechanical hammer drives our consciousness into a trance state, the so-called "zombie effect." Because of its specific sound, the style almost does not exist in its pure form, but it creates an emotionally confusing atmosphere in compositions of such bands as the Gasoline Department, the Testing Department, Pulsating Cartilage.

The Era of Technological Sounds

Industrial music combines the sounds of machines from different eras. According to history, the transition from an agrarian society to an industrial one came by way of the scientific and technological revolution. This turning point for humankind has led to the mass propagation of various mechanisms and devices, driving the process of industrialization. The composition *Falling Sun* by A Place to Bury Strangers is associated with the work at a certain enterprise or factory, because it uses the sounds of guillotine metal cutting and the blows of a jackhammer. Similar to this composition is *Trigger Warning* by Die Krupps in which factory press, hammer blows, and emergency alarms are heard. If these belong to the early phase of industrialization, for sounds that are closer to our times one cannot refer only to machines for industrial production, but include those for public use and leisure. Thus, in the composition *Time Machine* by A Nurse With a Wound one can hear radio or teleprompters as well as the grinding of various mechanisms. But it is also worth noting the improvement of the so-called tools of labor. Here the track *Corridor of Chambers* by the Testing Department utilizes the clearly audible sounds of a circular saw. However, one can also hear absolutely modern technological sounds that are familiar to all of us. *Untitled* by Broom is a twenty-minute composition that works with the sounds of a microphone and an industrial fan.

CONCLUSION

In a genre of music such as Industrial, machine sounds are most often found in the form of broadband as well as color noise – in other words an inhomogeneous, multi-level structure of mechanical noise which stands in opposition to any other system. Noise is understood as a chaotic sound that interferes with orientation in the cultural space. But there is not only industrial sound penetrating the sphere of traditional music, there is at the same time music invading human industrial life. The result of our work is a study of the sounds of technology in Industrial music, comparison and contrasting various types of noise. The sounds of machines differ in volume and rhythm, they speak different languages. Compositions include the sounds of mechanical and electrical devices, machine

tools and other types of equipment. The effect of each sound on the musical piece is unique and unrepeatable. The emotional state of listeners depends on sound associations. Loud stomping, scraping metal and other sounds evoke a sense of alarm, while, for example, the sound of a hair dryer or radio interference plunge us into the rhythm of everyday life. However, the life of society is changeable, which is perfectly reflected in Industrial music. While industrial sounds penetrate music, music aspires to become an industrial way of human life. From the sounds of the guillotine to the sound of the microphone it reveals the chronology of the development of industry and technology. Music, filled with a chaotic jumble of machine sounds, becomes widespread and comprehensible. It symbolizes openness, uncertainty, and strength, and it conveys the spirit of the masses, huge industrial complexes, cars, airplanes. This explains the growing popularity among common people of machine noise in our turbulent days.

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