

PHONOGRAPHIC INDUSTRY: SUMMIT AND DECLINE IN THE 20TH CENTURY

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ABSTRACT

By highlighting the Brazilian context as the analytical approach, this article gathers data on the impacts on music consumption brought by the development of the phonographic industry. Since the emergence of the phonograph in the late 19th century until the revolution brought by the digitization and sharing of files in the first decade of the 21st century, this research presents, chronologically, the main devices for sound reproduction or physical music supports that have appeared within this time period, thus creating a record of the technological evolution in the phonographic industry in the 20th century. This article targets the present-day reconfiguration of the means of production and distribution of music, as well as its means of consumption and some of its effects on the industry, the artists and users.

Keywords: Phonographic industry, music, new models of music production and consumption.

INTRODUCTION

The digitization of communication processes and the transformation in the running of cultural assets, which occurred mainly after the year 2000, made us wish to review the past of the phonographic industry, analyzing some of its main periods and their respective characteristics. In that sense, this article seeks to draw upon some dates in history we believe are crucial points when observing the transformations held primarily throughout the 20th century: a watershed century to the music industry.

Talking about the music market without looking at the transformations occurred in the 20th century is neglecting its period of extensive, key changes, with the summit and decline of the so called "majors" (big record companies) - that would end up determining, for better or worse, much of its history, as we shall see in this article. That's why we opted to create a record on the evolution of the phonographic industry, from the late 20th century to the early 21st century.

This technological evolution is strongly related to the very development of the music market and the music industry, since the process of recording for the purpose

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of reproduction and hearing is born having an industrial, technological device as its base. We'll approach the evolution process in the recording of music, with reference to the emergence of new technologies that have fostered new ways of circulating and enjoying the musical production, paving the way for our argument over the impact brought by the digital/virtual platforms for such market.

In a way, when observed through the historical perspective of the phonographic industry, the history of music is similar to that of cinema, a kind of art in which the process of production is inseparable from the technological apparatus. Furthermore, the seventh art emerges within an industrial and properly commercial structure: we just have to remember that the first public screening of a movie, in 1895 in Paris, had its tickets sold. It was within these historical circumstances that music also began to be registered in physical supports, with expectations of an industrial model structure, aiming commercialization. We are then talking about the real historical transformation of music into a product, of its commercial tangibility, because as we shall see next, until then, enjoying music was restricted to auditions of live performances.

This article is structured as to cover the key in force models in each analyzed period, contextualizing the Brazilian reality whenever possible. In order to do so, these periods were chronologically subdivided according to names of the main devices or other musical reproduction supports: in the first part of the article - entitled Yesterday - we'll talk about the phonograph (which covers the years between 1877 and 1887), the gramophone (which dates back to 1888 and lasts until the late 1910s) the 78 rpm record (which emerges in 1925 and lasts until the late 1940s), the vinyl records (which emerge in 1948 and begin to decline at the end of the 1980s) and the cassette tapes (a technology that emerges in the late 1970s and declines in the late 1980s). In the second part of the text - entitled Today -, dedicated to the digital/virtual era of the phonographic industry, we'll find the CD (which emerges in the beginning of the 1980s and remains until today) and finally, the download (which emerges in 1990s and becomes popular after the 2000s). As our focus is the 20th century, we opted for leaving the current streaming services aside, as these services arise in Brazil only after the second decade of the 21st century.

It's important to state that the time span for each period as exposed here is not precise; it is an attempt to better organize the timeline of the 21st century according to the history of the phonographic industry in that time frame, taking into consideration that, even nowadays, these multiple models of music supports keep coexisting, especially amongst private collectors and music lovers. Given that, we'll start analyzing the key time frames in the phonographic industry that begin in the end of the 19th century, peaking and declining (when considering industrial means of production) in the next century. That way we can assert that it is in the 20th century that major industrial and massive transformations connected to the music market take place.

YESTERDAY

The phonograph

Until the end of the 19th century, in order to listen to or consume music it was necessary to go to a concert or to listen to a live performance: until then, music wasn't reproduced or commercialized through any audio recording formats. In Brazil, during the transition period between the 19th and the 20th century, according to

researcher José Ramos Tinhorão (1998: 226), the music “market” at that time was limited to the informal sales of sheet music for piano.

Developed in the year 1877 by the American Thomas Edison (1847-1931), the phonograph was the first attempt of recording and reproducing music. Harry Crowl says that “the American inventor created, after numerous experiments, a device with two needles, one for recording and the other for reproducing music, which was able to register sounds in cylinders. Such sounds were emitted through a mouthpiece similar to one of a musical instrument, perhaps a tuba or a sousaphone” (Crowl 2009: 144).

The phonograph was a device that originally recorded sounds in wax cylinders. It was, therefore, one of the first mechanical devices which had the purpose of reproducing sounds (not necessarily music) and which had the potential to open the gate to a market that could sell and commercialize goods that so far didn't know their own reproducibility was possible - even though that wasn't Thomas Edison's original intention. In our brief genealogy of the phonographic models, the phonograph represents the first form of music reproduction, and also connects the experience of listening to music to the physical existence of a device that is responsible for diffusing sound waves.

The gramophone

Developed in 1888 by Émile Berliner (1851-1929), a German man who immigrated to the USA, the gramophone was an update compared to the phonograph, according to Simone Pereira de Sá (2009: 57), the gramophone was able to “reproduce and copy sounds through shellac discs made from a copper mold, allowing sound to be recorded in one of the sides”. There was also the possibility of making new discs in wax. In other words: Berliner's invention freed music from being trapped in a reproduction device and placed it in a physical support that was easier to handle and was also more portable. Unlike the previous moment, there was now an interest in the sale and commercialization of music. The chosen format for Berliner's invention was that of record discs: it was then installed, from that moment on, the model that would rule the whole phonographic industry during the 20th century.

In effect, it is only after the gramophone that we can identify the prototype of what would be one of the main products in the phonographic industry in the 20th century: the record disc. Kept and fixed in a support that allowed its transportation and marketing, music would become an industrial product marketed in large scale - although it could hold symbolic value and inherent expressions in a given culture.

In fact, after the invention of the gramophone, during the slavery period in Brazil in the 1880s, the possibility of marketing record discs could be foreseen, especially after the emergence of the vaudeville, which was similar to Brazil's “teatro de revista”, a theatrical genre of political and social satire that would also stage musical acts during its shows, and were highly popular in Rio de Janeiro in the late 19th century.

Every artist who wished to have a successful career would have to take part in the variety (vaudevillian) theatre. And that arose the greed and interest from certain groups wishing to seize the opportunity of their success in the theatre to sell records with music from their performances. José Ramos Tinhorão sees this moment as the beginning of a period in which music would become a product: first, as previously

pointed out, with the sales of piano sheets and after through the sales of gramophone records and player piano rolls (Tinhorão 1998: 226).

Yet, the first recordings made by Brazilian artists date back to the 1900s. If we think that the gramophone had been invented a little more than ten years earlier, in the same year that slavery was abolished in Brazil, and that the proclamation of the republic had taken place in 1889, we can say in this sense that we were not so far behind. One of the people directly responsible for this breakthrough was Fred Figner (1866-1947), a Czech immigrant of Jewish origin who settled in Rio de Janeiro and founded, in the late 1890s, the famous Casa Edison, a phonograph and gramophone import company. Shortly after, more precisely after 1902, Casa Edison began to venture in music and became a record company, winning the title of the first commercial label in Brazil. However, all the material was sent abroad, where it was produced, and then returned to Rio de Janeiro as finished record discs, ready to be marketed.

A few years later, after becoming associated with foreign corporations, the same Fred Figner, founds the first record factory in Brazil, called Odeon, which worked as an agent to the international headquarters. While Casa Edison was in operation, it launched more than 28 thousand titles in the Brazilian market, being considered one of the main responsible for the professionalization of the phonographic industry in the country. It was at Casa Edison that the samba singer Bahiano recorded dozens of songs, such as "Pelo Telefone", the first samba registered on a record disc, in 1917, which came to be a milestone in the history of Brazilian music. Brazil was also the first country in the world to record music on both sides of an album, this first album recorded both sides was also sung by Bahiano.

It is a period that will last until the late 1920s but that shows definite signs of the commercial system that would rule the entire 20th century. Although in general, historiography does not recognise, in this particular period, what could be called mass consumption of music as we understand it today, we cannot fail to see at that moment the embryo of the phonographic industry, either by the way music was recorded (in discs), or by the very principles and means of reproduction that very little changed in the following periods - also visually and structurally speaking. In fact, we can say that the technological evolution brought by the gramophone improved the reproduction and quality of sound, but there weren't many changes regarding the principles that were already there in that phase, which, according to our chronology, is the second phase in the evolution of the phonographic industry.

The 78 rpm records

It is possible to say that the 1920s are another milestone in the history of the phonographic industry: firstly because it is in this decade that we first see the 78 rpm (revolutions per minute), which would then become the standard for the industry, more precisely, after 1925; secondly because it is in the same decade that we identify what we can call modern-day phonography, as defined by Simone Pereira de Sá (2009: 58): "the culture of mechanical reproduction of music as of the link between the record as its physical support and the length of the popular song".

Although many researchers have commented on the curious story of how the popular song adopted its format, we shouldn't stop talking about such topic, as it is closely linked to the 78-rpm record: as it has a recording space of approximately four minutes on each side, the physical support eventually determined the format and the

average length of popular songs. More than 90 years have gone since the 78-rpm record emerged and popular songs continue to have the same dominant market-time pattern, an exemplary fact of the influence of technology on artistic creation, which contrasts with the standards for musical composition that ruled until the 19th century. Until today, when an artist dares to break this model, especially when it comes to a "musica de trabalho" (a song chosen amongst others in the album to be performed exhaustively in all media), two versions are usually made: one that we may call original or full-length, which will be part of the album, and another one to run on radios and/or television, which we may call as edited version.

Approximately four years after getting into the market, somewhere near 1929, shellac discs began to triumph over the phonograph cylinders developed by Thomas Edison, and multinationals already installed in Brazil, such as RCA Victor, for example, began producing those discs for commercial use in radios, since they were more resistant and produced less surface noise.

To get an idea of the revolution caused by the 78 rpm records in the phonographic market and especially in the Brazilian market, we just need to remember that the 78-rpm record that contained the song "Chega de Saudade", released by the novice João Gilberto in 1958, sold 15 thousand copies. Anísio Silva and Orlando Dias, two very popular singers in the 1950s, sold up to 100,000 copies of every 78-rpm released.

We can say that in the 1950s, the world of music already displayed complete structure and a growing market, although most of these devices were concentrated in largest cities like Rio de Janeiro, capital of Brazil at that time, and São Paulo. However, the great evolution was yet to come: the emergence of the LP format, as we'll see next.

The vinyl record

1948 is the year marked by the emergence of the Long-Play or LP format, as it became popularly known. It was made from a new plastic material originating from petroleum, the vinyl, which, although delicate, was more resistant and allowed better sound quality when played. Because of the type of plastic material used in manufacturing, LP records have also become known as vinyl records. In reference to this particular moment, Sá states that: "The continuity of this story has other important milestones in the development of two modalities of a new support, the vinyl record, which was released in the post-war period by rival labels almost at the same time: in the Long-Play version of 12 inches and 33 1/3 rpm by Columbia in 1948; and the seven-inch version with a large hole in the middle, and played at 45 rpm, released by competitor RCA Victor in 1949" (Sá 2009: 58).

One of the differences between the 33 rpm LP record as it became known, and the 45-rpm record is that "the LP record gains legitimacy, initially, from its association with 'good', 'pure' music, seen as 'high class'- like classical music and other adult genres, for example. The 45-rpm record gains its importance by being the chosen option for disclosing commercial pop-rock hits, thus becoming an important format for the distribution of singles to radio and television" (Magoun 2002; Keughtley 2004; Shuker 1999 apud Sá 2009: 58).

We should also highlight the playing time of each: the 33-rpm record played up to 23 minutes of music on each side while the 45 rpm record could play up to eight

minutes on each side (around four tracks if we consider the length of commercial songs). It is also important to observe that in this transition period all formats were still being manufactured and marketed: the 78-rpm record, the 33 rpm LP record and the 45 rpm record. Naturally, the new technologies and the direction given by the industries surpassed all the other formats and the extinction of the first supports was inescapable, to the point of vanishing completely and becoming rare items as they are today (at that time they were perhaps more eccentric than rare objects).

All this evolution, until the end of the 1940s after the emergence of LP records, had generated some technological advance in the process of recording and reproducing music. In the 1920s, the electric recording replaced the mechanic recording almost completely, even for analog recordings.

Since the emergence of the first phonograph in the late 19th century until the modern Long-Play record, the phonographic industry had already disseminated the marketing of the records and the multinational companies were already structured in the fordist model of vertical integration of industrial production, that is, the record companies themselves were part of and had total control of all stages of the production of a record, from the choice of the material to the confection and distribution of the finished LP record, in addition to deciding which artist would or would not play on the radios and television and, consequently, reach success.

It is then, since the 1940s and early 1950s, that the multinationals settled as big corporations that led all stages and spheres of the phonographic market around the world. It was during this period that we identified the transformation of music into an industrial business capable of building fortunes and large corporate conglomerates.

When analyzing Brazilian popular music from this period, an analysis that could be extended to other genres and to the phonographic industry that had sprang up at that moment as a whole, Tinhorão states that "after the emergence of recordings - first in cylinders, and then also in records -, the production of popular music would have amplified both its artistic and industrial base: the first, through the professionalization of singers (soloists or choir singers), the wider participation of instrumentalists (orchestras, bands and groups in general) and the emergence of new positions (the conductor-arranger and the artistic director); the second, through the appearance of factories that demanded capital, technology and raw material" (Tinhorão 1998: 247).

It is a turning point in the evolution of the phonographic industry, since it is in this period that the professionalization of music begins, proof of that lies in the fact that great names in Brazilian music, such as Pixinguinha and Tom Jobim, have worked as arrangers and conductors in two of these corporations. Pixinguinha, in 1920, was hired by Victor Talking Machine Company of Brazil as an instrumentalist, chief and rehearsal of the Orquestra Victor Brasileira. Tom Jobim was hired as an arranger by Continental in 1952, at a time we can already call industrial, because in addition to the appearance of features that were characteristic of the major labels, there was also a boom in the communication networks in the country, after the popularization of radios and especially the emergence of television, vehicles that started making use of an important space within the chain of production and promotion of popular music.

It is also in the late 1950s, more precisely after 1958, that the first LP records with stereo sound were sold, in other words, LP records with a system that used two

audio channels, right and left, synchronized in time, but that gave the listener the impression of a single channel of sound. That way, the LP record became a support for even better-quality music. Gradually, the previously adopted model called monaural, which is a single audio channel system, was being replaced until its total disappearance (and stereo sound still remains to this day).

Tinhorão is enlightening at this point. Although somewhat lengthy, the quotation is enriching and, once again, can be extended to other musical genres: "The result of this expansion of industrial-commercial basis of the product 'popular music' to a much greater extent than on its artistic-creative part was that in a few years, the criteria of production in such a field went from the artistic quality of the product to its commercial possibilities. This meant that while artistic creation was to be governed by aesthetic standards, popular music started, in its production, to be governed by the laws of the market. This subordination of the artistic to the commercial would explain, after all, not only the growing transformation of popular music into formulas which were manufactured for the market (after its massification was achieved, producing only 'what people like' was enough), but also the progressive domination of the Brazilian music market by foreign music imported from major European and North American centers, also home to international record labels and the modern industry of electronics and high-tech instruments. Transformed, therefore, into an industrial-commercial product due to the need for a material basis for its reproduction - record, tape, film or videotape films -, Brazilian popular music has, after the 20th century, settled within the market on the same level as other domestic products" (Tinhorão 1998: 248).

Although Tinhorão advocates as if there had always been a conspiracy movement against certain Brazilian popular music, we cannot fail to notice many illuminating aspects on the subject in his analysis, especially regarding Brazil in the 1950s. However, it would be naive to imagine, as Tinhorão's text indirectly leads us to think, that there were only product-songs. It is true that this type of production strengthened widely because of the growth of the phonographic industry, but non-commercial music, if we may call it that way, continued to be produced and sold, albeit on a smaller scale and much less conveyed by the large systems of media.

We also have to remember that it is in this same period that television appears in Brazil. And TV has a major role in the massively produced music set up in the country. It is also after the 1950s that TV, which becomes a strong ally of radio (soon to become the main communication vehicle in the country), goes on to dictate the rules of what will or will not succeed in the country. Perhaps the greatest exponent of the relationship between TV, radio and the phonographic industry in Brazil is the singer Roberto Carlos, who in the 1960s, alongside Erasmo Carlos and Wanderléa, hosted a program directed at young people on Sunday afternoons (on a channel called TV Record) and that had the same name of the movement headed by him: the "Jovem Guarda" movement, a Brazilian cultural movement that mixed music, attitude and fashion. It is also worth mentioning that, as the name of the movement itself reveals, it targeted young people, who after the post-war period became as or even more important as a consumer for the industry than the adult, economically active people, who had been the usual consumers so far. From that moment, young people, responsible for a considerable part of the sales, became the target of the phonographic industry.

Apart from the technological evolution and media interests directly linked to the phonographic industry, perhaps the greatest cultural change brought by the emergence of LP records, and also driven by financial interest, is the creation of the album format. As previously mentioned, the 78 rpm and 45 rpm records each had playing times of approximately 8 and 16 minutes, which in practice meant a record with 2 and 4 tracks according to the length of commercial songs. As the new LP records allowed approximately 45 minutes of playing time, a new structured product was created, in which the songs were somehow interconnected within the whole that composed the artwork. Simply put, we could say that the records formed a narrative and an aesthetic piece of work, and had beginning, middle and end. In that way, record companies (and artists) paid less and less attention to the formats of 78 and 45 rpm, which normally, after the appearance of the LP record, were used to promote singles. At that moment, these types of records began to decline, although it was common in Brazil that record companies would still work with this format, like in João Gilberto's debut album released in 1958 by Odeon.

What actually happened is that the 78 and 45 rpm records ended up serving as tests: if a single reached good sales numbers, the label would give the artist the chance to release an LP record. That's exactly what happened to João Gilberto who released his LP record "Chega de saudade" in 1959, one year after releasing the single. In Brazil, the compact records, support in which many hits were released, were marketed until approximately the late 1980's.

The fact is that the LP record, besides bringing technological innovations, reshapes the whole culture of music consumption. Sá states the following: "To this end, the contribution is not coming from the development of studio recording techniques, but mainly from the consolidation of a 'long-lasting' product, which brings together a piece of work in close connection with the notion of an author/composer, and which fans could also collect. So, although the compact records represented an important share of music consumption in those years, it is the album format - understood as one product lasting about 40 minutes, where songs were all interconnected, which had a title, a side A, and a side B, was presented inside a cover also enclosing inserts, texts presenting the artist, a technical sheet and which were released by a certain group or performer - that guarantees to LP records the hegemony within the popular-massively produced music culture [...]" (Sá 2009: 59).

As Keightley (2004) points out, the fact that the LP record consolidated its place as the flagship of the phonographic industry between the 1950s and the 1980s was due to the market perception that these records did not only sell when released: when composing the catalogues of main record companies, they would also present a constant and long-term commercial return.

In an interview for Bravo magazine in April 2008, the musician Charles Gavin seems to agree with the previously quoted passage: "[...] In the past, the arrival of a new record was an opportunity to see your friends and 'taste' the records with them. 'I remember people going to school with their favorite LP records under their arms', says Charles Gavin, researcher, drummer for the Brazilian rock band Titãs and host of "O som do vinil", a show on Canal Brasil. 'It was a way of saying 'I like this song', but not only that: it represented political and behavioral options. You were stating 'this is who I am' [...]. At the same time, the LP record implies an intimate ritual. 'Side A and side B propose something quite different to the listener', explains Gavin. 'Which way to start?' As he decides, a whisper comes to his ear: 'Let go of

what you're doing, pick up the record cover, get the record insert, sit down and have a nice trip! [...]"

Gavin's words touch an important topic: the symbolic and cultural power concentrated in a LP record. Vinyl discs then become part and also compose the identity of the individual who consumes it - in a way that is not very different from what happens with the visual identity of a particular group or "tribe". Music, combined with the LP record product, has the power to express tastes and attitudes, such as belonging to one niche or denying another. And so it continued until the end of the 1990s, when the music CDs became popular and, more importantly, financially accessible to the Brazilian population.

To conclude this section of the article in which we talk about records, whether made of shellac or vinyl, it is interesting to point out the basic differences in all of them. The following table points out the differences between 33, 45 and 78 rpm records.

RECORD TYPE	RELEASE	MATERIAL	COMMERCIAL NAME	PLAYING TIME
33 rpm	1948	Vinyl	LP record	Up to 46 minutes
45 rpm	1949	Vinyl	Compact or Single	Up to 16 minutes
78 rpm	1920s	Shellac	78 rpm record or just 78	Up to 8 minutes

Table 1: Difference between 33, 45 and 78 rpm records.

The magnetic tapes

Another support that is also of great importance for the development and understanding of the phonographic industry, but is frequently overlooked, is the magnetic tape. Developed initially by the Germans in the 1930s, as of the magnetophone, they would only become popular (in commercial terms) after the 1970s.

Prior to its massification, according to Crowl, "the magnetic tape was only used for professional purposes on radios, TVs, film production companies and labels to create the matrix of the records." Thus, the old recording methodologies, "with wire recorders recording on a piano string" (Crowl 2009: 143), have disappeared. So, we can say that the magnetic tape was of great importance for the technological race, because it increased the quality of the phonographic production while facilitating the corrections during the recording processes. In the United States and Brazil magnetic tapes would reach greater professional visibility only after the 1950s.

However, the popularity of magnetic tapes and the great changes brought by them would come only after the 1960s and especially in the 1970s: that is when the cassette tapes emerged. From this period on, consumers had two options: vinyl records and cassette tapes - which were less durable than records. There were three advantages to the cassette tapes compared to vinyl records: the price, the portability and the possibility of homemade recording. The second and third advantages require deeper analysis on our part, as they represent a new relationship with the musical product: the consumer was free to listen to music on portable radios, as well as in automobiles. At that moment, we can see the beginning of the process that would individualize the consumption of music: if before, as Charles Gavin reported, the act of listening to an LP record was

motive for a hangout with friends, now, for the first time, individuality would gain more space and the relationship between music and listener would change forever.

It is also after the cassette tape that the consumer becomes free to copy, from a matrix, their own tapes, just as it becomes possible to copy the contents of the vinyl records to a tape (in this case, including the freedom of a change of support and editing content), and the possibility of recording directly from commercial radios. Anyone who had a cassette tape could start making music and sound recordings, such as the recording of a child singing or some tribal or indigenous ritual for example. This has made the German government, at that time, to impose a copyright charge on the production of cassette tape players, in order to avoid possible copies. It is the beginning of the homemade reproducibility of music. "With all these attributes, even if we consider its lower quality compared to records, cassette tapes have also become a perfect solution for so-called 'demos' - samples of professional music or recordings from any other origins. The circulation of independent recordings, as well as piracy of commercial recordings, became noticeable after the cassette tapes" (Crowl 2009: 147).

Crowl reminds us of other crucial points: the beginning of "demo" tapes allowed novice or even successful artists to record their music or their new compositions in a simpler way - and they also worked as an effective way of registering ideas and compositions that were still in progress. Another fact that arises after the emergence of cassette tapes is piracy: as it was so easy and cheap to copy a tape, compared to the original records and original tapes, homemade reproduction on a commercial scale and for profit had become a reality, especially in smaller cities.

Also for the first time in the history of the phonographic industry, the cassette tape had allowed people to create and select songs according to their particular tastes and interests. Once home recording was feasible, creating a personal set-list became a reality, or in other words, it was now possible for anyone to create their personal album, selecting, recording and creating a cassette tape with their favorite songs or interests for any particular purpose.

As cassette tapes were practical and portable, easy to copy and allowed the act of listening to music to be individual, nothing would be more natural than creating a portable and individual device to listen to music. In 1979 Sony launched a new product in the market: the Walkman, a compact device capable of playing cassette tapes and tuning into commercial radios. The Walkman is, therefore, the pinnacle of listening to music individually. "With their Walkman, people could go anywhere or do anything with music. The first models of the device had two headphone jacks, so that it was possible to listen to songs with other people. This demonstrates that the adaptation to the idea of individualized use and consumption of music happened gradually, as this detail on the device was discarded by Sony shortly afterwards" (Milles 2005 apud Carvalho e Rios 2009: 83).

Currently, cassette tapes can still be found; however, they are no longer used for music or piracy, but for other types of sound recordings, such as interviews. The commercial tapes manufactured by the phonographic industry to sell their artists can no longer be found. Nowadays, we can only find blank cassette tapes.

Herein, we close the analogical part of the development of the phonographic industry. Although some recording resources, during the same period, already had digital technology, such resources were restricted to industrial processes and not directly related to the user, as would happen later, as described below.

TODAY
The CD

Proceeding with the history of the phonographic industry, in this second part of the article we will approach the emergence and popularization of digital technology through two crucial points: the CD and, later, the download and the sharing.

The compact discs, or CDs, represent a revolution and a new era in the history of the phonographic industry around the world, because although the recording processes were already well advanced in industrial terms, it is only after the CD that the technological resources of the digital world became a reality for consumers. Sound quality had become considerably higher compared to LP records and cassette tapes: noises and hisses disappeared and the recording time practically doubled in comparison to the vinyl record. Another advantage of the CD was its size: although it was only 12 centimeters in diameter, it could initially contain up to approximately 70 minutes of music. Some researchers say that the storage time of a CD was intentional: Akio Morita, the Sony executive who commercially launched the novelty on the market, was passionate about Austrian conductor Herbert von Karajan and the Berlin Philharmonic Orchestra's interpretation of Beethoven's 9th Symphony, a version that lasts around 70 minutes. Others say that the CD has this storage time due to the demand for recording another Beethoven symphony, the 5th.

The novelty came to the market through Sony in 1982, but in Brazil it is only after the 1990s that this type of media becomes popular. Having such high sound quality, the CD was initially intended only for classical music lovers, since they were the ones who wanted to get rid of the characteristic hisses of LP records and cassette tapes: "[...] To the consumers of classical music, since they naturally had much more demanding ears [...]" (Crowl 2009: 149).

One of the great evolutions brought by the CDs was precisely the enabling of a revolution similar to the one cassette tapes had originated a few years earlier: creating the possibility of home recording. The CD allowed, sometime later, with the help of a computer and some specific software, that anyone could copy or create their albums according to their taste - only now with much better quality than that provided by the pioneering cassette tapes. It was such an easy process that the CDs quickly became pirated and distributed for profit. However, at that time there was no room for people who would offer the latest musical innovations at a more affordable price in smaller cities: CD piracy arrived at the same time almost everywhere. From that moment on, the phonographic industry started feeling that its hegemonic structure (sustained throughout most of the 20th century) was trembling. There wasn't much to be done and there were no ways to control it, since consumers had access to the means of production, whether on a private scale or on an industrial scale aiming profit (as in the case of piracy). This is a watershed event for both the phonographic industry and the consumers, and such revolution can be summarized in one word: freedom.

Throughout the industrial development that has taken place since the first records appeared (along with the gramophone in the late 19th century), the consumer was led to accept whatever the industry provided. Changes began to happen after the arrival of cassette tapes and became more considerable after CDs appeared: making copies had become so easy that the habit of borrowing albums gradually disappeared - it became easier to copy a CD and give it to friends than to lend your original (if you owned the original). Younger people today are unfamiliar to what we refer to when we say 'loan

culture' of any kind of music physical media: they share their musical taste in other ways, as we will see later.

Similarly, to what happened after the cassette tapes and consequently after the emergence of the Walkman, the CDs followed the same path: in 1984, once again by Sony, the Discman was launched, a device that played CDs instead of playing outdated tapes. Once again, we notice the encouragement to individualize the act of listening to music - a fact that would be consolidated once and for all with the virtualization and also the vanishing of the physical supports in the following decades. The Discman symbolically represented the cutting-edge music market of that time. Thereby, the CD meant a new revolution, made possible by the technological and electro-electronic development, by the cheapening of production costs and by the mass consumption of this new format of sound reproduction.

Much is said nowadays about the vertiginous drop in the sales of original CDs after internet arrived. Although this is an unquestionable fact, this drop did not cause the CD to disappear completely from the music business: a different type of CD units sold in the consumer was then created. The following table shows the number of CD units sold in Brazil in the first decade of the 21st century, according to the ABPD – Associação Brasileira de Produtores de Discos (Brazilian Association of Record Producers):

YEAR	GROSS SALES CD + DVD (R\$)	UNITS SOLD (CD + DVD)
2002	726 million	75 million
2003	601 million	56 million
2004	706 million	66 million
2005	615,2 million	52,9 million
2006	454,2 million	37,7 million
2007	312,5 million	31,3 million

Table 2: values reported to the ABPD by the largest labels operating in Brazil.

As we can see, over the period under analysis, sales numbers fell sharply, causing the Brazilian phonographic industry to register a 50% drop in financial activity in less than 10 years. It is thus clear that the experience of buying music has been altered significantly in the last two decades, topic that we shall address in the next section of this article.

Sharing

Differently from the previous topics, which were initially listed according to the names of the sound reproduction devices of each period and later by the names of the main music physical support types, we chose to call this part of the text "sharing", instead of proceeding to discuss each contemporary virtual music delivery format. Firstly, because it would likely be a long and repetitive task, since new hardware and software capable of reproducing and sharing music constantly appear, even though they all work practically under the same principle. The specificity of each media format that arose from this virtualization process will not be our focus, since they do not have a major, exclusive role within the industry: they do work as a model that has reshaped the music

market within a digital context, guided mainly by the development and popularization of the internet. Our objective is, therefore, to highlight the emergence of a new logic of production and consumption, favored once again by technological development and also capable of significantly altering the ways of making and enjoying music.

The amount of time that each virtual format - such as software, websites, and sharing tools - have endured as being a novelty in the last two decades is too short to have each one discussed separately, as we had previously adopted as standard approach in this article. It is worth, however, to highlight the emergence of Napster as the starting point of the discussion, since this tool was able to make the entire phonographic industry rethink its business model.

When it arrived on the Internet in 1999, Napster became the first mass software to share music in MP3 format. Its operation was peer-to-peer (P2P): each user downloaded the songs directly from another user's computer, while making music stored on the computer's hard drive available to anyone else who was also online - in other words, users exchanged files with each other, without any kind of middleman and with no costs, simply by being connected to the internet and having the software installed on their respective computers.

That way, we witnessed the arising of a great global network with thousands of songs available that could be exchanged at zero cost. It is estimated that 8 million users worldwide exchanged a volume of 20 million songs per day. In 2001, however, Napster, which had become a company in the previous year, ended up closing because it did not withstand the lawsuits of the phonographic corporations and also of musicians who did not allow the exchange of audio files that were protected by law, both alleging the promotion of piracy.

The fact is that Napster has made its way into history as the pioneering program of digital/virtual file sharing and has forever changed the structure and performance of music companies. Shawn Fanning, a young programmer who was 19 years old in 1999, was responsible for shaking the way big music corporations operated by creating Napster, which would be the epicenter of the changes that would shake the major labels around the world.

After that, other software began to appear, such as eMule and Bittorrent, both very popular, each one with its peculiarities and perks, but all of them working under the same principle of ideas spread by Shawn Fanning. As we know, the popularization of these tools occurred in the midst of the installation of cyberculture at the beginning of the last decade, which promoted the idea of information sharing and presented a counterpoint to the classic dynamics of the Cultural Industry. The boom in social networks in this period - which in Brazil was carried out by the Orkut network - opened space for the posting of songs and images, in a logic of free content exchange between connected users that would be the keynote of later technological developments.

In this context, the social network MySpace, which emerged in 2003, ended up attracting the attention of musicians precisely because of its applications which enabled hosting MP3 files - the audio file compression format that has become the most popular on the internet. And what was initially perceived as an opportunity only by musicians and bands from the independent scene interested in promoting their work, later gained a possibly bigger than expected projection and started to include successful national and international musicians. MySpace subverted the concentrated outreach scheme of the phonographic industry, and gradually became an important tool used to promote new

songs and albums even for high-profile artists. Taking part in social networks and other digital platforms of communication and social interaction gradually became part of what many companies call digital marketing, in other words, a marketing strategy focused specifically on the internet and the virtual world.

In 2008, André Midani, one of the leading names in Brazil's phonographic industry in the 20th century, titled the book in which he tells his autobiographical memories: *Música, ídolos e poder: do vinil ao download* (Music, idols and power: from vinyl to download). Midani thus defined the download as the finishing line of the History of music, that could be understood through its relationship with the industry. At the download stage, the materiality that objectified music in the music industry - from shellac to magnetic tapes, from wax cylinders to vinyl - would be replaced by P2P networks and audio file compression programs. It's worth mentioning that the MP3, a format that became popular by the exchange of songs online, made this revolution possible by compressing audio files 12 times smaller than the size of a WAV file, which was the original format of music recorded on a commercial CD.

We then highlight the virtualization process that impacts the experience of the post-internet music: we speak of a time when it became possible to carry the complete discography of an artist in a cell phone, for example. This historical process has led artists of various styles to release songs or albums first through the internet and later in the traditional way, that is, in physical media. Every so often, there would be no physical album at all: as they were made available on the official websites of artists or offered for sale in virtual stores, albums became a mere compilation of files. The artistic/aesthetic proposal of each album, previously printed on the inserts, was often shared through different channels, such as hotspots or special pages that would contain pictures and information of a certain production.

Music is yet another product among thousands which have been affected by the development and popularization of the internet. Those changes were not, therefore, an exclusive historical break for the music business. Other media were equally affected, suffering major impacts, such as print media and cinema. However, the music business carries a very peculiar shift, because, in short time, anyone on the internet could have access to a heap of music on a global scale. We can afford getting to know and searching for music of all genres without leaving our homes and, especially, without having to pay for it, using popular tools such as Bittorrent or other music download websites.

In a way, we can say that cheaper access - and not just the abandonment of physical formats of media - is just as important as the separation of music from its physical support formats. For there would be no use in such a split if there was no possibility of mass access by consumers. If before, the phonographic industry dictated the rules of the market and especially the price of its products, after virtualization we entered a new era: that of telecommunication companies, without which, access or consumption of music is severely impaired.

On the other hand, crucial events for this transformation had already appeared before the split of music and its physical support happened, a topic we shall address in the conclusions below.

OVERALL CONCLUSIONS

It is interesting to consider that many of the "novelties" that have emerged in the digital world have been sketched since the 1970s, which was the period when cassette tapes became popular. Cassette tapes, as mentioned before, allowed music to be more

portable for the first time in the history of the phonographic industry, and allowed the consumer to independently record songs according to their interest - enabling a breakout from the format of a finished album. Therefore, part of the digital technology brought by the CDs was already available in the 1970s, in other words, the means to the revolution in the music industry were already present in those years.

Similar processes also happen with new support formats or new types of media: part of the freedom preached by many researchers already existed years before - but, of course, on a smaller scale and uncappable of revolutionizing the means of production and consumption as it has happened in more recent years. Something similar also happened after songs began to be marketed unitarily - which many say is a way of negating the album format - that already was a reality at that time, as well as the homemade or commercial reproduction of any song, from cassette tapes. This is one of the lines of reasoning advocated by Jenkins (2009), in which the author shows how the different media can coexist and, contrary to what is often pointed out or questioned, these different types of media don't exclude each other, they coexist and in some cases, complement each other.

Thus, being aware that the means of production, the availability and the means of consumption of music have undergone great changes, it is worth highlighting that many of the aims are still the same: music lovers keep on making homemade copies of their favorite albums or songs, they continue to listen to music individually (but also collectively), they go on trying to escape the dictatorship of the market (which is still strong and validating) and finally, continue to be influenced by the market itself through its multiple performances, internet included. If we have indeed overcome a strictly industrial model of production and distribution of recordings, it is a mistake to think that we are completely independent in our experience with music: our patterns of taste and aesthetic expectations continue to be defined by a market of symbolic goods, that now tends to act under the logic of niches.

Regarding consumption, the great change is the easy access to an endless catalog of musical offerings that are available on the internet. As for the means of production and availability, today's musicians, whether professionals or amateurs, have the possibility of producing their work at a reasonable price compared to 1980s' reality, for example. This reminds us of that old children's game where the magic spell backfires: the industry has lost control of its existing mechanisms which were created by the industry itself.

However, we would be naive to think that the industry is only a victim in this reality, it is not: it makes good use of these mechanisms and is also learning to deal with and play this reality, often bringing to its catalog musicians/bands that have emerged through virtual channels and which, as it were, have a loyal and guaranteed audience. And it is not common that many musicians/bands decline the old means of production: they end up surrendering to the music market and being hired by the labels, which today try to push contracts that grant them participation in the box office of concerts, pleading the decrease in CDs sales as the reason.

Finally, we believe that, with respect to music, many possibilities were already there even before the creation of the digital/virtual world. Perhaps the best thing would be to say that the digital/virtual world has reshaped and improved many of the available types of media, it certainly created many possibilities and, after its digitization/virtualization and after the practicality provided by the internet, allowed the means of production and

the content sharing mechanisms to become popular. However, so far, there has been no change in two of the main formats imposed by the cultural industry: the album format and the length of commercial music, which have been the same since the beginning of the music industry, and it looks like they will be the same for a long time.

On the other hand, the digital/virtual culture of music is re-shaping practices like the consumption of songs detached from albums and the creation of personalized albums instead of finished ones put together by record companies - realities made possible, as we said before, after the emergence of cassette tapes. The number of independent artists is also rising. It is relevant to mention the nostalgia brought by the exacerbated digitization/virtualization of music: the return of the LP record and the reactivation of an industry that had been surpassed by technology. Faced with these facts, we may wonder if CDs will ever disappear. Maybe not... And we can conclude by asking: when will the standards imposed by industry really be thought about or altered in order to reformulate all the standardization of commercial music? For, until now the means have changed: the format and standardization seem to remain the same.

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