

# THE WORLD'S GREATEST SOUND ARCHIVE

## 78 RPM RECORDS AS A SOURCE FOR MUSICOLOGICAL RESEARCH

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*During the era of 78 rpm shellac records, circa 1900 to 1955, at least a million different recordings were produced in most countries of the world. This paper discusses the growth of the industry, the selection of artists and repertoire, the archiving of historical recordings, and their significance for musicological research. Many recordings are probably permanently lost and surviving examples are scattered across many private and public archives, but online catalogues will hopefully make this material more accessible in the future.*

Keywords: record industry, music archives, musicology, access, online catalogues.

*V obdobju gramofonskih plošč z 78 obrati na minuto, približno v letih 1900–1955, je nastalo vsaj milijon različnih posnetkov iz večine dežel sveta. Članek obravnava rast te industrije, izbiro izvajalcev in njihov repertoar, arhiviranje zgodovinskih posnetkov ter njihov pomen za muzikološka raziskovanja. Mnogi posnetki so verjetno za vedno izgubljeni, ohranjeni primeri pa so razpršeni v številnih zasebnih in javnih arhivih; upamo lahko, da bodo spletni katalogi v prihodnosti omogočili večji dostop do tega gradiva.*

Ključne besede: glasbena industrija, zvočni arhivi, muzikologija, dostop, spletni katalogi.

### INTRODUCTION

Thomas Alva Edison invented the phonograph in 1877. It was a device for recording and reproducing sound. The cylinder phonograph was relatively easy to use, and scholars realized that it was able to capture the sounds of speech and music even under field conditions. Even though the technical quality of recordings was limited and the playing time of a cylinder was only about two minutes, it was a welcome tool for ethnologists working with different languages and musical traditions.

The phonograph was widely marketed in the U.S.. In 1899, 151,000 phonographs were manufactured, and the total number of machines in use must already have been close to half a million (Gronow 1983: 54). The U.S. had a large indigenous population, and there was considerable interest in documenting the traditions of the country's native tribes. The first scholar known to have used the instrument for such purposes was Jesse Walter Fewkes, who recorded the songs of the Passamaquoddy in Maine in 1890 (Brady 1999: 52–56). These recordings are still preserved. By the end of the nineteenth century, as the phonograph spread around the

world, the idea of using recordings as a source for scholarly research was widely accepted. The world's first sound archive—the Phonogrammarchiv of the Austrian Academy of Sciences—was founded in 1899. Anthropologists and linguists continued to use the phonograph long after it disappeared from the market. In fieldwork it was eventually replaced by tape recordings. Many countries still have important collections of historical cylinders.

However, by 1905 the phonograph cylinder had already been surpassed by a competing invention, the gramophone record. Disc records were pressed into a shellac compound and, after some experimentation, the playing speed was standardized at seventy-eight revolutions per minute. Discs were easier to manufacture and handle, and their playing time was longer than cylinders. The gramophone record was designed for mass reproduction. It could not be used for home recording, but for most consumers that did not matter. For the general public, “records” soon became synonymous with discs. For the first half of the twentieth century, the standard format of sound recordings was the 78 rpm shellac disc and, by the demise of the format in the late 1950s, at least a million titles had been issued by various record companies all around the world.

These recordings could be said to constitute the largest archive of historical recordings in the world. The genres that were most frequently recorded were Western popular and classical music, but record companies also issued numerous recordings of ethnic and regional music in most countries of the world. The number of ethnic recordings made by record companies is probably greater than the number of recordings in cylinder collections. Commercial recordings include music from regions and styles that were never documented by academic researchers. However, this heritage is a “virtual” archive only because the recordings are scattered among numerous private and public collections, and many have probably not survived at all. In this paper, I discuss the production of commercial 78 rpm records, their significance for research, and the accessibility of the materials. My focus is on recordings of ethnic music, but I also touch upon developments in parallel fields (for a general history of the recording industry, see Gronow and Saunio 1998).

## THE GROWTH OF THE INTERNATIONAL RECORD INDUSTRY

The disc record industry developed from the gramophone, invented by Emile Berliner in 1887. After several years of experimentation, the first successful businesses got underway around 1900. The Gramophone Company was founded in the UK in 1898, and the Victor Talking Machine Company in the U.S. in 1901. The public enthusiastically welcomed recorded music, and within seven years the sales of the Victor company alone increased from 250,000 to 7.6 million records (Mainspring Press 2009).

By 1907 growth had leveled off, but there was now a flourishing record industry in the U.S., UK, France, and Germany. Berliner's basic patents had expired, and Gramophone and Victor had several competitors. Although the production of gramophones and discs was concentrated

in the largest industrialized countries, they were marketed in practically all countries of the world. Lady Catherine Macartney, the wife of the British Consul in Kashgar, Xinjiang, China recalls in her memoirs an unexpected encounter with the gramophone in 1908 (Macartney 1931: 87). The trip from Kashgar to the nearest railway station took two months by horseback, yak, and foot, but resting overnight in a small mountain village in the Tien Shan Mountains she was entertained by a gramophone, a proud possession of a village elder.

By the outbreak of the First World War, gramophone records were widely circulated. In the largest industrial countries with the highest standard of living, gramophones were within the reach of the ordinary working man. More than ten million records were sold in the UK annually (Martland 1992). In smaller European countries, the penetration was lower, but foreign trade statistics show that more than 150,000 records were imported to Sweden in 1908 from Germany alone (Englund and Gronow 2011). Outside Europe, recordings may only have been within the reach of a wealthy minority, but this was large enough to support a flourishing business. Germany exported 622,000 records to British India in 1907, and in the same year the Gramophone Company opened the first record factory in India to supply local demand (Gronow 1981).

At this time, most records were produced by a small number of multinational firms with subsidiaries and agents in many countries. Gramophone in Europe and Victor in America were the market leaders, but there were half a dozen other important companies competing with them. The French Pathé company was also strong in Russia, and in 1920 it opened the first record factory in China. There were also smaller factories operated by local businessmen in Poland, Turkey, Italy, Hungary, and other countries, but they often found it difficult to compete with the international companies (see, e.g., Lerski 2004; Marton and Bajnai 2008; Gössel 2006).

The First World War interrupted the record business. New production was curtailed and sales declined. Only in the U.S. did growth continue, and in 1920 the Victor Talking Machine Company alone sold over thirty-three million records. Total record sales in the U.S. probably exceeded one hundred million discs. In Europe it took several years for the business to recover. The international companies had lost their business interests in the USSR, and many newly-independent countries in Europe were in turmoil. In Finland, for instance, no new recordings were made between 1915 and 1925. During this period, the only Finnish records were made in the U.S. for sale to Finnish immigrants.

The growth of the international economy in the mid-1920s also speeded up the record business, and many countries experienced “a gramophone boom” in 1928–29, when lower prices and a rising standard of living made it possible for a larger part of the population to enjoy recorded music in their homes. Electrical recording technology, with better sound quality, was introduced in the mid-1920s. New record companies appeared, and businessmen in smaller countries eagerly sought the rights to sell their products. Engineers were again sent on expeditions to distant areas and recordings were made locally in Australia and Sub-Saharan

Africa for the first time. Even residents of small islands such as Malta and Réunion, which had previously been forgotten by the industry, could now hear recordings of their own music.

There are no international statistics on record sales during this period, but it is possible to make rough estimates of the record market in typical countries. In the U.S., about 140 million records were sold in the peak year 1929; in Germany, twenty-seven million; in Sweden and the Netherlands, about three million; and in Finland, one million. In Asia, there are exact figures for the Dutch East Indies (Indonesia), where almost two million records were imported in 1929. In China, India, and Japan, the market was bigger. In Latin America, about one million records were sold in Colombia, Peru, Venezuela, and Colombia, and considerably more in Brazil and Argentina (Gronow 1983: 62). As far as I know, no one has yet attempted to estimate the size of the record market in Yugoslavia and other Eastern European countries in 1929 but, as a working hypothesis, I would suggest that close to one million records were sold in each country.

The international economy crashed in 1930, and the world entered an economic depression that reached its nadir in 1933–35. In many countries, record sales declined as much as eighty or ninety percent. In Germany, annual sales dropped from twenty-seven million to three million records between 1929 and 1935 (Gronow 1983). Companies went bankrupt or merged with other companies. Two of the biggest record companies in Europe, Columbia and Gramophone, merged in 1931 to form Electric & Musical Industries Ltd (EMI). The record business was even more vulnerable than other industries because it had two new competitors. Radio had been introduced in the 1920s, and by the end of the 1930s more than half of all homes in the industrialized parts of Europe and America had a radio receiver. With the purchase of a radio set and the payment of a small license fee, a family could receive free programming that included a great deal of music. Movies had also acquired sound, and musicals became a popular film genre.

The global economy started to recover in the mid-1930s and the record business began to grow again, although it did not yet reach the level of the peak years 1928–29. Most European countries had now adopted a policy of economic protectionism, with high import duties. The new policy favored the development of local record factories, and there were many new companies that competed successfully with the multinationals: Sonora in Sweden, Bellaccord in Latvia, Esta in Czechoslovakia, Syrena in Poland, Electrecord in Romania, and so on (e.g. Gössel 2006; Lerski 2004). Even the Soviet Union, where record production had nearly come to a halt after the revolution, modernized its record industry in the 1930s as part of its second five-year plan (Zheleznyi 1989: 121–136).

The outbreak of the Second World War halted this development, but various parts of the world were affected in different ways. In the U.S., production and sales went on almost as usual, although the government rationed the sale of shellac and other raw materials. In the largest European countries—Germany, France, the UK, and the USSR—production continued throughout the war on a diminished scale. In the worst-affected countries there was no business at all.

The recovery of the business followed the same pattern as that following the prior war. In the U.S., sales took an upward turn in 1945, and within five years record sales doubled. In Europe the recovery was much slower. European countries continued their policy of economic protectionism, favoring local production. In countries that had become members of the communist bloc, the record industry was nationalized and usually organized into a single national company such as Muza in Poland or Supraphon in Czechoslovakia. By the 1960s, Europe had followed the U.S. lead: the record business started to grow rapidly, resulting in the pop music boom of the decade. In 1965, 93.8 million records were already sold in the UK, 2.8 million in Austria, and eight million in Yugoslavia, to give just a few examples (Gronow 1983). However, now the industry had already adopted a new technology, the vinyl disc, which is beyond the scope of this paper.

There are no statistics on the total number of different 78 rpm records produced throughout the history of the format, but various estimates can be made. Finland is one of the smaller countries in Europe. It had a population of 2.7 million in 1901, when the first Finnish records were made. At the end of the shellac period, the population exceeded four million. By the First World War, the number of Finnish recordings had reached one thousand. Between the world wars, about five thousand additional titles had been recorded, and roughly the same number after the war until the demise of the format (these numbers refer to titles, or sides of recordings; released recordings normally had two sides).

### THE U.S.: A NATION OF IMMIGRANTS

The U.S. has always been the leading record-producing country in the world and, after the Second World War, American recordings were exported in great quantities all over the world. The general history of the record industry in the U.S. is already the subject of numerous books and will not be discussed here (see, e.g., Sutton and Nauck 2000).

However, the U.S. is also a nation of immigrants, and it has both imported European recordings in large quantities and produced recordings of European musical traditions in order to satisfy the needs of its immigrant population. The immigrants often had a higher standard of living than their relatives in the old homeland, and record production in the U.S. continued even during periods when it was depressed in Europe. Between 1915 and 1925, no new Finnish recordings were made in Europe, but a considerable number were issued in the U.S., and some of these were even exported to Finland. Because the major American record companies had close ties with European companies, it was easy to exchange recordings with European associates. In this way, the American record industry also mirrored European production.

The production of recordings for immigrant audiences was already established during the early years of the American record industry. By 1908, the leading companies Columbia and Victor both had special departments for the production of “foreign-language” or “European” records. Although both were active in Europe, they established regular recording programs

for immigrant music in the United States. Between 1908 and 1923, Columbia alone issued about five thousand “standard” recordings of American popular and classical music and six thousand “foreign-language” records for about twenty different ethnic groups (for an overview, see Gronow 1982; Spottswood 1990).

These figures of course do not mean that immigrant recordings sold better than standard popular music. The average sales of a Finnish-American or Slovenian-American record would have been much lower than those of standard popular music. The best-selling popular records of the 1920s could already sell hundreds of thousands of copies, whereas many “ethnic” recordings apparently sold only a few thousand copies or even less. However, the companies realized that, in order to attract Slovenian-American customers, they had to offer them a variety of Slovenian music even if the sales were lower.

The number of recordings issued has a close correlation with the size of the various immigrant groups in America. The most common native languages besides English according to the 1940 U.S. census were German, Italian, Polish, Spanish, Yiddish, and French. The groups with the largest number of recordings by the Columbia Company between 1923 and 1952 were Italian, Polish, French, and German. Finnish, with 230,420 speakers in the U.S., ranked fifteenth in the census and fourteenth in production. Slovenian had 178,640 speakers and ranked seventeenth in the census and sixteenth in production, with 204 Columbia records issued (Gronow 1982: 23).

After 1931, when sales declined, record companies gradually discontinued the production of new “ethnic” recordings. However, to keep the business going, they continued to press imported recordings from Europe on a small scale. For groups such as Ukrainian-Americans, whose contacts with Europe were broken, new recordings continued to be made in America on a small scale.

After the Second World War, when the record business started to grow rapidly, record companies revitalized their old “foreign-language” departments. However, by now the immigrants had already been assimilated to a greater degree; the second generation spoke English better than the old language. The record business had also changed, and the large companies now had a large number of smaller competitors. The 1940s saw the emergence of new hybrid musical styles, such as “polka music” based on Central and Eastern European musical traditions but usually sung in English. Many popular “polka” musicians, such as the Slovenian-American Frank Yankovic, had an immigrant background, but their audiences were larger than their own ethnic groups. In 1948, Yankovic’s recording of the “Blue Skirt Waltz” became a national hit in the U.S. and reputedly sold over a million copies—far beyond the number of Slovenian-Americans (Greene 1992; Murrells 1984: 55). With the rise of rock and roll, European popular traditions faded into the margins of the American record industry. In 1951, when the Recording Industry Association of America published its first estimate of record sales by various genres, “international records” already accounted for only one percent of the total, whereas the share of “rhythm and blues” was 5.7 percent (Sanjek 1988: 245). However, it is likely that polka music sung in English was classified as “popular” rather than “international.”

## THE RECORDED REPERTOIRE

The biggest cost in record production is the original recording. Once a master recording exists, it can be effectively duplicated on a mass scale. Economies of scale favored large multinational companies, and media scholars have viewed commercially produced records as examples of mass culture created by the industry. In an influential study, Peterson and Berger (1975) found that competition between large and small companies was an important factor in shaping the development of popular music.

However, it took a long time for the record industry to arrive at its current business model. In the early years of the industry, international pop music in the modern sense did not yet exist. In countries under colonial rule, there was a steady demand for records from “the old country,” but these were mainly sold to local expatriates. Few records crossed linguistic borders. The main exception was Italian opera. Recordings of famous singers such as Enrico Caruso were marketed globally. However, most classical repertoire attracted only a minority audience.

Record companies realized that music was not an international language. In order to sell records, they had to produce music performed by artists known to their customers and performing in local languages. The recorded repertoire of the first quarter of the twentieth century was extremely varied and focused on local music. Between 1898 and 1925, the Gramophone Company alone made about different 250,000 recordings in Europe, Asia, and North Africa (Perkins et al. 1976). In the five Nordic countries (Sweden, Denmark, Norway, Finland, and Iceland), about twenty-eight thousand recordings were made between 1899 and 1925 by all record companies (Gronow and Englund 2011: 172). In Indonesia, Malaya, and Singapore, the corresponding figure for 1903–1920 was about 7,800 titles (Yampolsky 2011).

The variety was even more striking on the Indian subcontinent. An internal industry document from 1911 (reproduced in Kinnear 2002: 20) shows that there were over eight thousand locally produced recordings available that year. These included recordings in twenty-seven languages. The most common, with over three thousand titles, was Hindi, followed by Bengali, Burmese, Sinhalese, and Tamil, but even Nepalese and Tibetan records were available in 1911. This was not an industry focused on producing international “hits,” but music for relatively limited markets.

The decision was made easier by technology. In the era of 78 rpm records, production still relied heavily on piecemeal work. Early photographs of record factories show long rows of presses, each manned by a worker. Because there were no machines spitting out thousands of discs per hour, it was easy to manufacture discs in short runs. Very few records sold more than ten thousand copies, and the average sale of Scandinavian records before the First World War was about five hundred copies each (Gronow and Englund 2007). Because the same companies usually produced both gramophones and records, it was an easy compromise: they could market the same gramophones everywhere, but create a tailor-made repertoire for each market. It was much easier to sell gramophones in Tibet if the merchant could play his customers recordings of local music.

The number and variety of records of course depended on the size of the market. The largest countries supported the broadest repertoire, and this was boosted by competition between several companies. In the U.S., several thousand new records were issued annually already before the First World War, and record companies produced music in many different genres in order to attract different needs and tastes. In Germany and Austria, record companies had to consider the existence of regional audiences. Besides Berlin and Vienna, local performers were recorded in Cologne, Strasbourg, Königsberg (now Kaliningrad), Leipzig, and other regional centers. All major companies had special “South German catalogues,” featuring Bavarian dialect songs and “peasant orchestras” (*Bauernkapellen*). In Vienna, urban folk music was regularly recorded (Weber 2009). At the other end of the scale, the total number of Maltese 78 rpm records ever made was only a few hundred (Alamango 2011). In smaller countries, the repertoire was narrower, and some customer needs had to be supplied by imported repertoire.

Much of the recorded repertoire of the 78 rpm era could roughly be divided into two categories: classical and popular. Western art music is a fairly well-known entity, and much of the repertoire was common to many countries, although record companies also strove to record music of local composers and songs or arias in local languages. During the first part of the twentieth century, popular music was more rooted in local traditions. In the Nordic countries, the genres most frequently recorded between 1900 and 1925 were opera and concert singers, singing comedians and actors, choirs and vocal ensembles, and wind bands and instrumental soloists, especially accordionists and violinists. In Norway, these also included a considerable number of performers on the traditional *hardingfele* (Hardanger fiddle; Gronow and Englund 2007).

In the 1920s, the repertoire began to tend more towards modern dance music. This trend continued during in the 1930s, when the number of new recordings declined during the Great Depression. During many years in Finland, for instance, practically all new records issued were foxtrots, tangos, polkas, or waltzes. In the late 1930s, the number and variety of recordings began to increase again.

However, the Western concepts of “classical” and “popular” were not applicable everywhere. In Asia and Africa, the repertoire consisted mainly of local music. Even in Europe, there were regions where Western art music had not yet become established at the beginning of the twentieth century. Pennanen (2007) compared recordings made by the Gramophone Company in Belgrade, Zagreb, and Sarajevo before the First World War and found that, although established West European genres were frequently recorded in Serbia and Croatia, they were almost totally absent in Bosnia, where most recordings featured traditional folk music.

## THE SELECTION OF ARTISTS AND REPERTOIRE

Ethnomusicologists and linguists have placed great value on field recordings made by themselves or their colleagues. It is understood that these recordings were made under controlled



circumstances and the performers (“informants”) carefully selected to represent the oldest, best, or most typical expressions. A commercially produced record has been seen as the opposite: an industrial product created by anonymous machinery to satisfy the needs of a mass market, a far cry from an “authentic” recording.

However, the reality is not as simple as that. As Brady (1999) has pointed out, the circumstances of field recording were not always as clearly documented as one imagines. Scholars frequently fail to explain why a particular informant was selected, what instructions he or she was given, or how representative the recording really is of the community studied. It is not known how other community members would have evaluated the recording. According to Brady, many early researchers made recordings during brief visits to the communities they studied. This means that their knowledge of the community would have been quite limited.

On the other hand, a great deal is now known about the production of commercial recordings in the early years of the industry. During the first decades of the twentieth century, there were regular recording studios only in the largest cities such as Berlin, Paris, London, and New York. Companies strove to record the best-known artists, and their catalogues grew to include both the best-known classical repertoire (keeping in mind the limitations of playing time and recording technology) and latest popular songs. Internationally known opera singers and musical comedy stars had exclusive contracts with their record companies (see, e.g., Martland 1992 for examples of contractual practices).

Outside metropolitan areas, companies organized regular expeditions to countries or regions where there was also a demand for recorded music. The recordings were made by a small group of “recording experts” that combined the roles of producer and engineer (see Strötbaum s.a.). Alan Kelly has reconstructed the schedules of the Gramophone Company’s recording experts, which serve to illustrate their activities. The company had several experts that were allocated different geographical areas. Each expert had his own recording apparatus that followed him on his trips. In 1907, for instance, the recording expert Max Hampe was working in Germany and the Russian empire, where his tours took him as far as Central Asia. He started 1908 in Budapest and moved from there to Zagreb, Sarajevo, and Ljubljana. His work then took him to Lviv, and he spent the rest of the year in Zurich, Prague, Dresden, Salzburg, Stuttgart, Berlin, Bucharest, and Chernivtsi (Kelly 1995).

When a “recording expert” arrived in Helsinki, Ljubljana, or Vladikavkaz, the visit would have been preceded by correspondence with the company’s local representative, who had been asked to contact suitable performers and rent a large hotel room or meeting hall suitable for recording. Their aim was to record artists that were popular in the community, in order to ensure that the record-buying public would want to hear them in their homes as well. In addition, record companies wanted to make sure that they had the best-known songs in each country in their catalogue, starting with the national anthem.

However, beyond this, the artist seems to have had a great deal to say in the choice of recorded material. The Norwegian scholar Vidar Vanberg (1982: 27) was able to interview singer Jacob Endregaard, who had been one of the performers on the Gramophone Company’s

first sessions in the country in 1904. Endregaard recalled that the agent had asked him to prepare a list of suitable songs for the session. Complications arose only when another artist had chosen the same song, so something else that would fit the playing time of a disc had to be found quickly.

In another study of recordings made in Sarajevo in 1907 and 1908, Pennanen (2007) was able to show on the basis of newspaper advertisements and police documents that the artists recorded were also actively performing in the Sarajevo area when the recordings took place. The recording expert more or less had the role of an ethnologist making field recordings, documenting contemporary musical activities in Sarajevo. The only difference would have been that the potential popularity of the artists would probably have had less interest to the ethnologist.

In the course of time, record companies began to exert more influence on the repertoire. When dance bands became popular in the 1920s and 1930s, companies formed studio bands that would meet regularly to record new songs submitted by a music publisher or commissioned by the company. A working dance band could keep the same numbers in its repertoire for a long time, but record buyers continually wanted new songs. Thus the record company assumed the role of a music publisher or promoter, taking a more active part in commissioning and marketing new music.

The popularity of a recording is also an indication of its acceptance in the community. Some records sold better than others. There is not much information on the sales of individual records in the 78 rpm period; “top ten” lists, which have become a regular feature of the music press since the 1960s, did not exist at the time. However, often it is possible to make estimates of the relative popularity of early records. Any collector that has combed the flea markets systematically for old records will know that some records turn up with annoying frequency, so that no one will even accept them on the collector’s exchange circuit, whereas others have become highly desired collectors’ items. It seems fair to assume that records that survive today in large (or at least reasonable) numbers must have been popular when they were originally issued. Of course, other variables must also be considered, in order to avoid misinterpretation. A boom year occurred in 1929, and so even a moderately successful record from 1929 could be more common than the best-selling record of 1933. However, taking all things into consideration, commercial records can be assumed to be representative of the musical tastes of the communities where they were produced.

Of course, no single recording can represent the musical style of a community. Every community develops a variety of genres and styles, which may be in transition. Ann and Norm Cohen (1977) were among the first to systematically compare field recordings made by researchers with commercial recordings made in the same communities. Unfortunately such comparisons are not possible in all regions, but in the U.S., regional musical traditions were recorded quite extensively for both purposes at least since the 1930s. In some cases, the same performers made both types of recordings. Cohen and Cohen noted that field recordings tended to favor older idioms and “private” music, music performed in the context of homes, whereas

commercial recordings featured more “communal” styles, intended for public occasions such as dances and performed by professional or semi-professional musicians.

There are also cases where record producers documented older or unusual musical traditions even when they must have realized that their sales potential was limited. In Norway, the local Pathé representative, William Farre, made a large number of recordings of folk performers with the traditional Hardanger fiddle (Vanberg 1999: 25–28). Few copies of these recordings survive today. When compared to other recordings of the same period, they are extremely rare, which suggests that they sold poorly when they were originally released. Was this a disappointment to Farre, or did he envision himself primarily as a folklorist, thinking of documentation rather than sales?

Roberto Leydi (1997) has studied recordings of Sardinian folk music made in the 1920s and 1930s. During this period, at least twenty folk singers made commercial recordings. Efisio Melis, a well-known performer of the Sardinian *launeddas*, was recorded three times. Were these intended for folk music enthusiasts in Italy, or only for local audiences in Sardinia? Sardinia is one of the poorest parts of Italy, and I suspect that few local people possessed gramophones at the time these recordings were made. Very few copies of the records have survived, suggesting that they sold poorly. I asked Leydi where he found the records in his possession. He told me that he found them in taverns in Sardinia. It seems that tavern owners bought the records to entertain their audiences (Leydi, personal communication).

Starting in the 1920s, as dance bands became fashionable, gramophone records increasingly began to be used to accompany social dancing. Browsing through the catalogues of Finnish records produced in the mid-1930s, when sales were at their lowest point, shows that practically nothing else was produced. Although other types of music also occasionally appeared, recorded music gives quite a one-sided view of Finnish music during this period. Commercial recordings have never equally represented all existing musical genres and, the smaller the market, the narrower the view of musical life they offer. However, taking this into consideration, even in the leanest years recordings say a great deal about changes in the styles of dance music and the development of new forms of popular song.

## THE NEW MUSICOLOGY

The preceding sections focused on commercial recordings of folk and popular music and the possibilities they offer for ethnomusicological and cross-disciplinary studies. However, classical music has always formed a significant part of the recorded repertoire. While record companies were documenting musical performances on a massive scale soon after the turn of the century, it took a long time for musicologists to take an interest in these recordings. One of the first indications of the importance of studying gramophone records systematically was Roberto Bauer’s *Historical records* (1936), a discography of opera recordings made before 1907. Bauer and other contemporary publications show that there already existed an international

community of enthusiasts that collected operatic recordings and exchanged information about them. Collectors realized that opera singing had undergone a dramatic change of style around the turn of the century as “bel canto” was replaced by “verismo” and newer styles, and the early recordings of Nellie Melba, Adelina Patti, Francesco Tamagno and other singers that had received their training in the mid-nineteenth century gave them a chance to study a style of singing that had already disappeared.

This sounds like it would be an exciting subject for research. However, a look at musicological studies published during this period reveals hardly any references to recordings. In U.S. and UK, recordings were used as educational tools, but the idea that musicologists should study performance styles did not come up. Performance was the subject of critics and enthusiasts. Musicology was the study of works created by composers, and its primary source was notated music.

In the field of ethnomusicology, Alan Danielou, with the assistance of UNESCO, published a catalogue of recorded Indian classical music in 1952. Although far from complete, it was a good overview of Indian classical music available on 78 rpm records at the time of the publication. However, Danielou’s work did not attract followers. I do not know of any ethnomusicological studies based on an analysis of these recordings, and most of them were impossible to find in Europe at the time. Ethnomusicologists preferred to study materials collected in the course of their own fieldwork. However, since the 1960s there has been a growing interest in the use of sound recordings (although not necessarily commercial recordings). In a study of published articles and monographs, Sewald (2005) found that the number of cited sound recordings increased from the 1960s to the end of 1990s.

Recently there has also been a marked trend towards performance studies in musicology. This has been partly prompted by the rapid development of computer-aided methods of music analysis. Today there are programs that enable the researcher to convert a recording into a graphic form and analyze sound events with a degree of detail that was simply impossible earlier. Computers also enable the statistical study of various aspects of musical composition and performance. A good summary of new trends in musicology can be found in Day (2000) and Clarke and Cook (2004).

Naturally, it is possible to analyze contemporary performance styles with new methods, but this approach has created much interest in the analysis of historical performance styles. There are several studies on changes in violin playing based on historical recordings made by performers such as Joseph Joachim, Pablo de Sarasate, and Leopold Auer, and their pupils. Another trend is the study of changes in the performance style of a specific work over a long period of time, exemplified by Dahl’s (2006) dissertation on recordings of Grieg’s song “Jeg elsker dig,” opus 5/3. Katz (2004) goes even further; he argues that commercial recordings have had an effect on changes in the performance practice of classical music. Such studies would have been impossible without preserved recordings, and they have led to a need to make the collections of sound archives more easily available.

At the same time there has been revived interest in using commercial recordings as

sources for ethnomusicological research. Dimov (2005) discusses the extent of surviving folk music recordings in Bulgarian archives. Pennanen's dissertation (1999) on historical changes in Greek *rebetiko* music was to a large extent based on recordings. Edward Herbst (2012) studied changes in the performance practice of Balinese gamelan music on the basis of recording sessions organized by the Carl Lindström Company on the island in 1928. In India, there has been a noticeable increase in collecting and documenting early gramophone records, although so far the research has been oriented more towards cultural history than musicology (see, e.g., Sharma 2012).

### WHERE ARE ALL THE SHELLACS NOW?

The 78 rpm records made during the first half of the twentieth century offer numerous opportunities for research. For the study of traditional music, commercial recordings complement field recordings and also offer many chances to study changes in performance styles. In some cases, commercial recordings may be the only documents of extant musical styles that were never studied by fieldworkers—but how easy is it to find them?

Many countries have a centuries-old tradition of legal deposit, whereby printers were required to deposit at least one copy of all printed works with the national library. Finland has had legal deposit since 1707, when the country was still part of Sweden and the University Library of Turku (Åbo) was nominated as one of the libraries that had this privilege. Legal deposit served the needs of censorship and research: the authorities could keep an eye on everything printed in the realm, and the library would preserve the materials and keep them accessible to scholars.

The scope of legal deposit varied from country to country. Large countries have tended to be more selective, and small ephemeral publications such as commercial catalogues have often been left outside the scope of the legislation, or have later been culled from collections. Smaller countries such as Finland have been able to strive for more completeness, and as a consequence the National Library can now offer researchers a good—but certainly not complete—collection of “ephemera” (see, e.g., the Finnish National Library's online archive of ephemeral publications such as commercial catalogues; Digital ... s.a.).

When records first appeared on the market, no country seems to have considered the idea of collecting national record production systematically. Existing sound archives saw themselves as curators of field recordings and found no value in commercial products. A rare exception was the Berlin Phonogrammarchiv, where Erich von Hornbostel collected samples of “exotic” recordings pressed in Germany for the Asian market (Ziegler 2010). France and Italy were the first countries to extend legal deposit to sound recordings in 1930s, but in Italy the system was selective. National sound archives focusing on commercial recordings began to grow in the 1950s, but legal deposit of sound recordings usually had to wait until the vinyl era. In Finland, the legal deposit of sound recordings started only in 1981.

As a consequence, no country has a complete collection of national record production going back to the introduction of the new technology, comparable to the book collections of national libraries. Most national libraries and archives started collecting shellac records only when the technology was no longer current. Countries with good archives of their historical record production include the UK, France, Germany, the U.S., and the Nordic countries. The bigger countries usually have larger collections, whereas in small countries it has been easier to create near-complete collections. Most archives also have a number of foreign recordings, either because they were also distributed in the country, or because they happened to be part of a collection donated to the library.

On the other hand, record companies did not always find it necessary to archive their own productions for very long. Companies seldom stay in business longer than a decade or two, and even surviving companies often lost interest in preserving the older parts of their archives when they were no longer commercially exploitable. Technological changes such as the introduction of electrical recording in 1925 or vinyl records in the 1950s made older technologies seem antiquated. Wars, mergers, or simply a move to new premises prompted executives to order mass destruction of older stock; especially metal masters—technically the ideal way to archive sound—were frequently melted down for their scrap metal value. In the most dramatic cases, record factories were bombed or looted during wartime.

Consequently, the only record company with a good collection of its own productions going back to the beginning of the 78 rpm era is EMI. Founded in 1931 after a merger of several older companies going back as far as 1898, EMI has well-organized archives with mint copies of hundreds of thousands of shellac discs at Hayes, near London. The archive, EMI Group Archives Trust, is formally distinct from the commercial operation. However, this archive is not complete. During my own visits in the 1970s and 1980s I was able to ascertain that the EMI archive had about eight to ninety percent of all Finnish records issued on the Gramophone and Zonophone labels from 1901 to 1939, but none by Columbia or the other labels that were also part of EMI from 1931. In 2012 EMI was sold to Universal Music, another multinational record company, and the future of the archives seems uncertain. However, it is clear that the EMI archives contain thousands of unique recordings of ethnic music from all parts of the world dating back to the early years of the twentieth century that have never been studied by researchers.

The outcome is that knowledge of and access to shellac records is spotty, and it is not known what percentage of all 78 rpm records ever issued are still preserved today. There is no complete discography of all shellac records ever issued. Even when it is known that a record was once issued—for instance, from old advertisements or record company catalogues—it is not always possible to locate a copy. Although the archives in some countries have representative (but not complete) national collections, at the other end of the scale researchers have only a rough idea of the record production of many countries. In the worst cases it is not known what was recorded and where the records are today: there is no national sound archive, no national discography, and no research, but usually at least some private enthusiasts with some old records.

## TOWARDS A VIRTUAL ARCHIVE OF SHELLAC RECORDS

The study of the history of recorded music used to be a time-consuming affair that required extensive correspondence and visits to many archives. New technology is now making access easier and quicker. Step by step, libraries and archives have converted their catalogues into databases. As the catalogues are digitized, it is also easy to make them accessible online. Projects such as Dismarc and the Encyclopedic Discography of Victor Recordings (EDVR s.a.) have aggregated information from many sources, so that it is possible to search the catalogues of dozens of archives at the same time. When one recalls that many archives also hold recordings from other countries, the usefulness of this feature becomes evident. From Dismarc, one can discover that the Berlin Phonogrammarchiv has Burmese records made by German record companies before 1910, probably unique copies that cannot be found in any other collection.

Once it is determined that a particular record exists in a collection, there is still the problem of hearing it. Here, too, digitization has meant great progress. Because sound archives have found that it is necessary to digitize their collections for preservation and security, it has become possible to publish low-resolution copies online. In the Dismarc database (Dismarc ... s.a.), several sound archives have published either shorter samples or complete copies of recordings online. Although copyright law may limit this, many shellac recordings are already in the public domain, and thus there are no legal blocks to access. In the European Union, copyright on sound recordings now lasts seventy years from the year of first release, but this only applies to recordings first released in 1963 or later. Recordings made before 1963 will be in the public domain forever as far as the rights of producers and performers are concerned. The rights of the authors (composers, lyricists, etc.) last seventy years from the year of death, so these rights must be respected. However, numerous shellac records—particularly classical and folk music—are fully in the public domain. For the others, it should be possible to negotiate collective agreements permitting online access for research purposes. The idea of having all shellac records in all the world's sound archives accessible at least on dedicated workstations in research libraries, and public domain recordings freely accessible online for the general public, no longer seems unrealistic, although it still needs some work.

Online access of course does not meet *all* the requirements of musicological research. For a detailed study of the sound signal, a high-resolution copy is needed. For some questions, hearing the record is not enough; the researcher must be able to inspect the physical disc and visually examine its label, grooves, and markings on the shellac. However, once the disc has been identified and located, these problems can usually be solved. My estimate is that ninety percent of users will be served by a digital catalogue and a low-resolution listening copy. Only ten percent or fewer need a high-resolution copy or access to the physical disc.

With the parallel growth of sound archives, digital technology, and an awareness of the importance of historical recordings, researchers are approaching a situation where the blank spots on the map of recorded music are becoming smaller. It is becoming easier to get to know the collections of major sound archives, and in the long term it will also be possible to study

their holdings across borders: in some cases on open networks, in other cases perhaps over closed-circuit networks accessible through other archives and research libraries.

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## NAJVEČJI ZVOČNI ARHIV NA SVETU.

### PLOŠČE Z 78 O/MIN KOT VIR ZA MUZIKOLOŠKE RAZISKAVE

Industrija gramofonskih plošč se je od začetka 20. stoletja zelo hitro razvijala. V obdobju plošč z 78 obrati na minuto, približno med letoma 1900 in 1955, je nastalo vsaj pol milijona različnih posnetkov iz večine dežel sveta. Članek obravnava rast in ekonomijo te industrije ter izbiri izvajalcev in njihov repertoar. V tem obdobju so gramofonska podjetja ponujala zelo pester repertoar. Razmeroma malo gramofonskih plošč se je tržilo globalno, saj je bil poudarek na lokalnih tržiščih. Čeprav se je repertoar osredinjal na zahodno klasično in popularno glasbo, so snemali tudi ljudsko in nacionalno (angl. *ethnic*) glasbo številnih narodov, vključno z maloštevilnimi manjšinami. V ZDA so nastali posnetki za mnoge izseljenke skupine. Ker so bili posnetki narejeni neposredno na gramofonsko ploščo, so praviloma natančno dokumentirali glasbeno izvedbo.

Čeprav so se raziskave zahodne klasične glasbe zaposlovale predvsem z notnim gradivom, je naraščalo tudi zanimanje za preučevanje izvajalskih praks. Zgodovinski posnetki z začetka 20. stoletja nam omogočajo preučevanje sprememb izvajalskih slogov in tehnik. Komercialni posnetki so pri etnomuzikološkem raziskovanju vse bolj uporabljen vir, zelo pomembni pa so tudi pri študiju jazza in raziskovanju popularne glasbe.

Produkti industrije gramofonskih plošč predstavljajo velikanski »virtualni zvočni arhiv«.

A nobena dežela nima popolne dokumentacije o nacionalni gramofonski produkciji, poleg tega so izginili tudi arhivi večine gramofonskih podjetij iz obdobja gramofonskih plošč z 78 o/min. Posnetki so tako razpršeni v številnih javnih in zasebnih arhivih in veliko jih je verjetno tudi izgubljenih. Tako se lahko zgodi, da je edina kopija posnetka iz dežele A morda ohranjena v arhivu dežele B.

Z razvojem spletnih katalogov in portalov, kakršen je npr. Dismarc, lahko raziskovalci zdaj lažje ugotovijo, kje so redki posnetki. Vendar morajo raziskovalci poleg metapodatkov navadno posnetke tudi slišati, zato jih je treba v digitalni obliki objaviti na spletu. Čeprav so zgodovinski posnetki pogosto že javno dostopni in zanje ne veljajo več avtorske omejitve, bo vseeno potrebnega še veliko dela, da bo postal takšen virtualni arhiv praktično uporaben. Poleg tega bodo raziskovalci občasno še vedno potrebovali fizični dostop do same gramofonske plošče.

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