

## “Sound-Writing” Technologies and Early Field Recordings in the Ottoman Empire\*

### Osmanlı İmparatorluğu'nda “Ses-Yazma” Teknolojileri ve Erken Dönem Alan Kayıtları

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#### ABSTRACT

The history of early sound recording technologies in the Ottoman Empire has been studied mainly from the perspectives of music production, comparative musicology, and ethnomusicology. In fact, while hundreds of commercial and musical cylinders were being produced in Istanbul, Beirut, and elsewhere, European anthropologists, ethnologists, linguists, orientalists, etc. were traveling throughout the Balkans, Anatolia, and the Caucasus to collect audio data for scientific purposes. In order to contribute to the Ottoman history of science and technology from the perspectives of sound studies and auditory history, I focus on the first field recordings in the Ottoman Empire, namely during Paul Kretschmer's (1866-1956) study trip to Lesbos in 1901 and Felix von Luschan's (1854-1924) research in Zincirli (Sendschirli, Aintab) in 1902. Thus, this paper aims to fill a research gap within Ottoman Studies regarding field recordings and the impact of sound reproduction technologies on the history of the (colonial) sciences, especially anthropology, ethnology and linguistics.

**Keywords:** Phonograph, Sound recording technologies, Field research, Sound studies, Auditory history

#### ÖZ

Osmanlı İmparatorluğu'ndaki erken dönem ses kayıt teknolojilerinin tarihi, ağırlıklı olarak müzik üretimi, karşılaştırmalı müzikoloji ve etnomüzikoloji perspektiflerinden incelenmiştir. Aslında, İstanbul, Beyrut ve başka yerlerde yüzlerce ticari ve müzikal silindir üretilirken, Avrupalı antropologlar, etnologlar, dilbilimciler, oryantalistler vb. Balkanlar, Anadolu ve Kafkasya'da bilimsel amaçlarla ses verileri toplamak için seyahat ediyorlardı. Osmanlı bilim ve teknoloji tarihine ses çalışmaları ve işitsel tarih perspektiflerinden katkıda bulunmak amacıyla, Osmanlı İmparatorluğu'ndaki ilk saha kayıtlarına, yani Paul Kretschmer'in (1866-1956) 1901'de Midilli'ye yaptığı çalışma gezisine ve Felix von Luschan'ın (1854-1924) 1902'de Zincirli'de (Sendschirli, Antep) yaptığı araştırmaya odaklanıyorum. Dolayısıyla bu makale, alan kayıtları ve ses çoğaltma teknolojilerinin (sömürgeci) bilimler tarihi, özellikle de antropoloji, etnoloji ve dilbilim üzerindeki etkisine ilişkin Osmanlı Çalışmaları içindeki bir araştırma boşluğunu doldurmayı amaçlamaktadır.

**Anahtar Kelimeler:** Fonograf, Ses kayıt teknolojileri, Alan çalışması, Ses çalışmaları, İşitsel tarih

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## 1. Introduction

Thomas Alva Edison developed his phonograph (literally sound or voice writer) in the late 1870s with the intention of recording the spoken word, hoping to intervene largely in the business and domestic realms (Brady, 1999). The inventor proposed that the machine would restructure work procedures, as well as change the atmosphere at home by capturing and preserving “fugitive sound waves” (Edison, 1878: 530). The technology of voice recording had not only revolutionized the music industry on a global scale, but also radically challenged sound’s ephemeral and elusive character. Separating sound from its source and making it reproducible became an essential characteristic of sound reproduction technologies such as the radio, the telephone, and the gramophone (Engin, 2021). In his 1930s memoir, *Berliner Kindheit um 1900*, Walter Benjamin wrote about the transformative role of the sound of a ringing telephone in a middle-class household (Morat, 2019). In his later article, “Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit” [The Work of Art in the Age of Its Technical Reproducibility], he discussed the epistemological horizons that recorded sound promised, since sounds could now be listened to even when their original source was not present (Benjamin, 1969 [1935]). The limitless multiplication of sounds (and images) also intrigued Theodor Adorno from a phenomenological perspective, since *copies* could now re-present and re-sound a past moment, and as such mimic lived experience (Adorno, 1934).

The history of early sound recording technologies in the Ottoman Empire has been studied mainly from the perspectives of music production (Ünlü, 2000; Türkyılmaz, 2019; Yıldız, 2022), comparative musicology, and ethnomusicology (Yavuz, Tahtaişleyen, Önder 2020).<sup>2</sup> Discographic research and histories of recording companies that were active in the Eastern Mediterranean bring into light fascinating new knowledge about the transformations that were taking shape in the (post)Ottoman societies in the beginning of the twentieth century (Racy, 1977; Abbani, 2018, 2022). In fact, while hundreds of commercial and musical cylinders were being produced in İstanbul, Beirut, and elsewhere, European anthropologists, ethnologists, linguists, orientalists, etc. were traveling throughout the Balkans, Anatolia, and the Caucasus to collect audio data for scientific purposes (Frangos, 1995). In order to contribute to the

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<sup>2</sup> One might also include Melissa Bilal’s research on the recordings of Russian Armenian prisoners of war (POWs) in the Lautarchiv. See the booklet of the CD “1916-1918: Voice Imprints. Recordings of Russian Armenian POWs in German Camps.” Berliner Phonogramm-Archiv. Historic Sound Documents, Vol. 15.

Ottoman history of science and technology from the perspectives of sound studies and auditory history and relying on the collections of the Phonogrammarchiv in Vienna and the Berlin Phonogramm-Archiv, I focus on the first field recordings in the Ottoman Empire, namely during Paul Kretschmer's (1866-1956) study trip to Lesbos in 1901 and Felix von Luschan's (1854-1924) research in Zincirli (Sendschirli, Aintab) in 1902.<sup>3</sup> Thus, this paper aims to fill a research gap within Ottoman studies with regard to non-musical recordings and the impact of sound reproduction technologies on the history of the (colonial) sciences, specifically anthropology, ethnology, and linguistics.

Taking my cue from the scholarship in postcolonial histories of science and global knowledge production (Suman, 2009; Stoler, 2002; El Shakry, 2007), I stress that early field recordings in the Ottoman Empire need to be considered as part of global mobility of scientific knowledge production and attest to the emergence of field recording as a viable technological annex to colonial scientific research. The advance of colonialism led to further research in the fields of ethnography, anthropology, and linguistics, which in turn were greatly influenced by sound recording technologies. Even though it is important to differentiate between expeditions directly related to overseas colonialism and those that took place in semicolonial (Fuhrmann, 2012) context, such as the Ottoman Empire, archeological, art historical, and ethnographic research sites still exposed the extent of colonial othering, violence, and dispossession (Shaw, 2003).

While new communication and transportation technologies allowed colonial governors, missionaries, and scientists to travel with unprecedented ease and speed, the images and sounds they produced in the colonies could now be separated from their origins and brought back to the metropolis (Brady, 1999). Furthermore, as part of the efforts to decolonize the history of science, I stress that these ethnographic works, which are essentially attributed to white, male, European scientists, were often produced in collaboration with “native informants”, in other words thanks to the expertise and guidance of local intellectuals, teachers, and performers (Sanjek, 1993; Nikolaros, 2022; Cairns, 2020; Olley, forthcoming). Together with decentering the history of science towards the “native margins”, I also intend to highlight the situated and gendered aspects of sonic knowledge production (Goh, 2017) by highlighting the crucial role

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<sup>3</sup> Other important fieldwork sound collections in the Ottoman Empire include the sound recordings of Paul Träger (1867-1903) in Albania (1903), of Abraham Zvi Idelsohn (1882-1938) in Palestine (1913), and of Max von Oppenheim (1860-1946) in Ras al-Ayn (1913). All of them are part of the Berlin Phonogramm-Archiv.

that the wives of these scientists, Leona Kretschmer and Emma von Luschan, played in these research expeditions.

## **2. *Global History of Science and Sonic Technologies of Colonial Disciplines***

Edison advertised his phonograph as a “speaking machine”, which had several potential uses for the consumers. In his article, “The Phonograph and Its Future” (1878), Edison described ten different social, educational, scientific, and business uses for his phonograph.<sup>4</sup> Apparently, the documentation and preservation of languages was one of the many uses he envisioned for his new sonic technology. This proposal had immediately found a strong resonance among the scientific community. In an interview (1878), Edison declared the interest of the American Philological Society for the machine for the preservation of the dialects and accents, which risked dying out. This might potentially be regarded as one of the first proposals for an ethnographic sound-recording project (Feaster, 2001), even though the capacity of the technology was not yet developed enough in the 1870s to be effectively used in fieldwork research. The main problem was that the recordings of the first version of the phonograph could only be played again in the same machine that was used for recording – and with difficulty.

Sound-recording was successfully integrated into field research in the late 1880s with the introduction of the Bell-Tainter graphophone and Edison’s “perfected” wax-cylinder phonograph. These devices also made an appearing at the Exposition Universelle in Paris (1889), during which recordings were made of a large number of “Indians”, as well as the representatives of several African groups. From a scientific perspective, Jesse Walter Fewkes’ “Passamaquoddy cylinder recordings,” created in March 1890 in Calais, Maine, are considered one of the very first experiments in ethnographic audio documentation (Fewkes, 1890). The earliest European counterpart of Fewkes was most probably Belá Vikár, who collected folksongs and dialects in Hungary with the aid of the phonograph as early as 1892 (Graf, 1962). It is also known that recordings were made at the Chicago World Fair (aka World’s Columbian Exposition) in 1893. Relevant for our purposes, Benjamin Ives Gilman recorded during this Fair for the first time Ottoman musicians (Spiller, 1996). Towards the end of the 1890s, Evgeniya Lineva/Lineff (1853/4-1919), opera singer turned revolutionary, also made field

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<sup>4</sup> In his list were: 1. Dictation and letter writing; 2. Books for the blind; 3. Educational tool to preserve explanations by a teacher or teachings on elocution; 4. Music recordings; 5. “Family recordings” to preserve sayings; 6. Music boxes and toys; 7. Clocks with a voice and time-related messages; 8. Preservation of languages through phonographic books; 9. Speech recordings of famous personalities; 10. Connection with the telephone to create records. Thomas A. Edison, “The Phonograph and Its Future,” *The North American Review* 126/262 (1878): 527–536.

recordings in Ukraine in 1897 to document polyphonic singing traditions within Russian and Ukrainian folk songs (Loeffler, 2020). Cambridge Anthropological Expedition to the Torres Strait in 1898 was also another important example as one of the first instances of the phonograph being used for ethnomusicological purposes (Clayton, 1996). A meeting of the Société d'anthropologie de Paris, which had taken place during the 1900 Exposition Universelle, also presented several sound recordings made specifically for scientific purposes (Azoulay, 1901, 1902; Pasler, 2014).<sup>5</sup>

By the early 1900s the talking machine was becoming an integral part of field research in many colonial disciplines, such as linguistics, ethnography, and anthropology. The progress of these scholarly fields would also have been unthinkable without people travelling from one place to the other (Löhr, 2013). In what follows, I discuss the first field recordings in the Ottoman Empire and with Ottoman subjects, led by Paul Kretschmer and Felix von Luschan, and the introduction of the phonograph into linguistic, anthropological, and ethnological research. Even though these recordings have been analyzed from the perspectives of music studies (Lechleitner, 2005; Yavuz, 2020), neither Luschan's nor Kretschmer's research agendas were shaped by musicological research objectives. Instead, these expeditions literally pioneered the incorporation of sound recording technologies into ethnographic research methodologies. Kretschmer's and Luschan's audio documentation in the Ottoman lands were also the very first field recordings to be included in the Phonogrammarchiv in Vienna and the Berlin Phonogramm-Archiv, respectively.<sup>6</sup> Both institutions would soon become the most important scientific sound archives and major centers of colonial scientific knowledge production.

### ***2.1. Paul Kretschmer in Lesbos, 1901***

The importance of sound recordings for research was acknowledged earliest in the Habsburg context, and on April 27, 1899, the Phonogrammarchiv of the Austrian Academy of Sciences was established as an independent institute with the aim of producing and collecting recordings in linguistics and music, as well as archiving the speeches of prominent personalities. A special phonograph, the "Archivphonograph" (Fig. 1), was specifically developed using the Edison

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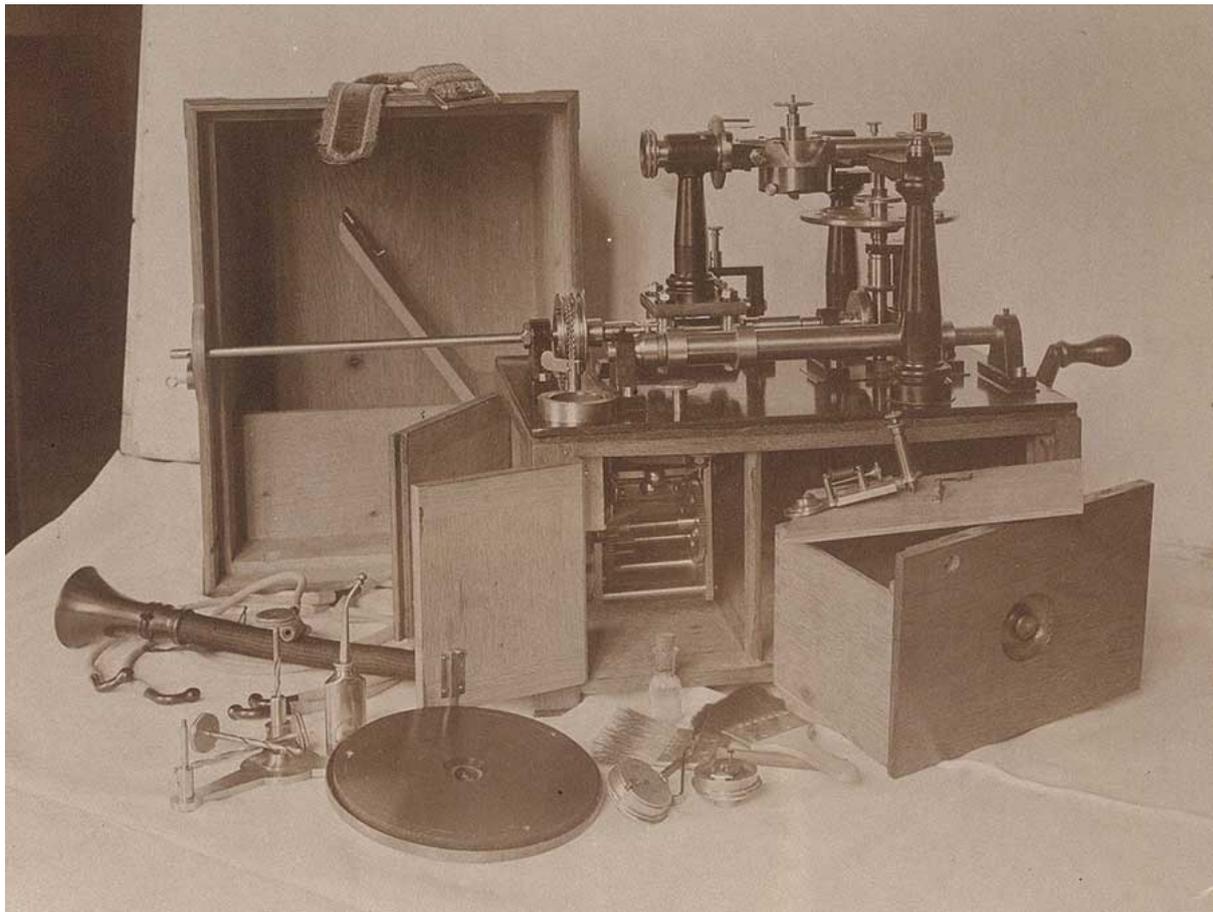
<sup>5</sup> The entire collection of Azoulay (over 400 wax cylinder recordings) is digitized by the Centre de Recherche en Ethnomusicologie, Nanterre. They are consultable at [http://archives.crem-cnrs.fr/archives/collections/CNRSMH\\_I\\_1900\\_001/](http://archives.crem-cnrs.fr/archives/collections/CNRSMH_I_1900_001/). This archive has voice recordings (song and text) made in Paris in 1900 with Ottoman subjects from Istanbul, both in Turkish and Ladino.

<sup>6</sup> At a later date, the Phonogramm-Archiv received cylinders that had been recorded before 1900, such as the collections of Franz Boas in Kwakiutl 1893. The Archive's early wax cylinder collections entered into the UNESCO register "Memory of the World" in 1999.

stylus arrangement on wax discs (instead of cylinders). This had ensured the lasting quality of the recordings and allowed unlimited reproduction of copies in the future (Graf, 1962). On November 26, 1900, the Phonogramm Kommission decided to test the device in three “expeditions” to gather experience. These three fieldworks, which were equipped with a phonograph, took place in 1901 in Croatia, Brazil, and the Isle of Lesbos.<sup>7</sup>

Figure 1

*Archivphonograph (Type I) without funnel*



Source: Phonogrammarchiv, OEAW.

Paul Kretschmer (1866-1956), linguist and professor at the University of Vienna, undertook the research trip to Lesbos at the suggestion of the Linguistics Department of the Balkan Commission of the Imperial Academy of Sciences (kaiserliche Akademie der Wissenschaften, KAW). The main aim of the trip was to research the local dialect and collect linguistic and

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<sup>7</sup> Accordingly, the recordings from Milan Rešetar's journey to Croatia; Richard Wettstein & Friedrich Kerner's trip to southern Brazil and Kretschmer's trip to Lesbos are the oldest holdings of the Phonogrammarchiv and have all been published (Lechleitner 1999).

ethnographic material, as he was working on a historical grammar of the Greek language. The linguist was instructed by the Kommission to take the phonograph, as a cutting edge scientific technological device, and put it to test. The researcher was also provided with a manual with instructions on how to use the device and relevant forms to assist in the preparation of protocols.

Kretschmer's research trip, following the early examples of Fewkes and Vikár, needs to be considered as one of the earliest implementations of the phonograph in linguistic research (Nikolaros, 2022). Kretschmer and his wife Leona went via Crete and Salonika and arrived at Lesbos at the end of August 1901. They spent almost two months until they left at the end of October 1901 to visit Smyrna, Athens, and Brindisi before returning to Vienna. Kretschmer's Lesbos travel diary (*Reisetagebuch*) did not reflect positive impressions about the device. The fact that the linguist could only bring back three discs also makes it clear that he could not benefit much from the new technique. Kretschmer openly complained about agreeing to take the phonograph with him, especially because it was a very heavy cargo (Nikolaros, 2022). The machine alone weighed 35 kg., including the disks and the accessories, the researchers needed to carry up to 100 kg. during the fieldwork (Luschan, 1904b: 178; Graf, 1964: 19). Kretschmer wrote:

“I did not achieve satisfactory results with the phonograph I was given in Vienna. One of the main shortcomings for anyone traveling with this phonograph must be its weight. In Salonika I needed a truck to transport it from the harbor to the hotel. On Lesbos, I was forced to leave it in the main town of Mytilini itself, as its transportation to the villages was not feasible in the difficult traffic conditions.”<sup>8</sup>

As a relatively experienced professor, who was partially forced into trying an entirely new medium and a new research methodology, it is not hard to imagine Kretschmer's frustration in this research trip. Kretschmer could make recordings only in Mytilini due to the relative immobility of the machine. He was also disappointed with the low success rate of recording a quality disc. Thanks to the extensive research of Stratos Nikolaros on Kretschmer's research expedition to Lesbos, it is discovered that he made a total of not just 3, but in fact 11 sound

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<sup>8</sup> “Mit dem mir von Wien aus mitgegebenen Phonographen habe ich keine befriedigenden Resultate erzielt. Als ein Hauptmangel muss jedem, der mit diesem Phonographen reist, seine Schwere erscheinen. In Salonique brauchte ich einen Lastwagen, um ihn vom Hafen zum Hotel zu transportieren. Auf Lesbos war ich genötigt, ihn in dem Hauptort Mytilini selbst zu belassen, da sein Transport in die Dörfer, bei den schwierigen Verkehrsverhältnissen nicht durchführbar war. Auf durchweg gefügiges Terrain, weil ihre Aufmerksamkeit ganz durch das Singen psychisch zu sehr in Anspruch genommen ist.” Paul Kretschmer, “Bericht über meine Erfahrungen mit den Phonographen,” *Paul Kretschmer Reise nach Lesbos 1901*, vol. III, p. 28-29 published online: <https://kretschmer.oew.ac.at/wp-content/uploads/2022/12/Phonographische-Aufnahmen.pdf>.

recordings in Mytilini (Nikolaros, 2022: 17). Unfortunately, some of the discs were destroyed by scratching each other during travel. Others were “stretched” and became “off-center” (*exzentrisch*), ruining the recordings.

According to his field notes, the first (unsuccessful) recording was made on September 2, 1901, and registered a fairy tale (*Märchen*) in Lesbos dialect. As a whole, the fieldwork experience of Kretschmer with the equipment and potential performers speaking/singing to it was a difficult one (Graf, 1964: 20). The anxiety of the local population and their self-consciousness vis-à-vis the unfamiliar device usually made the recording process especially tricky. In his 1902 report of the tour, Kretschmer described scenes of crying and begging children, openly manifesting their fear to speak into the machine (Kretschmer, 1902: 82-83). Furthermore, it was hard to find suitable informants, who would speak loud enough and articulate the words clearly to be recorded. Soon enough, Kretschmer realized that professional singers were less timid of the apparatus, so he returned from his linguistic expedition with recordings of songs, none of which were in Lesbos dialect (Nikolaros, 2022: 16).

Following the documentation procedure of the Archive, the recordings were delivered together with transcripts (*Protokoll der Tonaufnahme*) that provided information about the audio material, as well as biographical data of the individual recorded. In the three discs that Kretschmer recorded on 13 September 1901, Michail Efthymiadis (from Alaçam, Samsun) the chanter of the church in Loutra can be listened to, singing three songs in demotic Greek. The songs were “My sweet angel” (Ph 131), “A blonde haired girl” (Ph 132), and “In a deserted cemetery” (Ph 134).<sup>9</sup> He noted in his diary that Efthymiadis had a very nice and strong voice (*sehr schöne und starke Stimme*), but too loud for the phonograph (*zu stark für den Phonographen*).<sup>10</sup> Nevertheless, based on his diary entry from 22 September, when he saw him again that day, Kretschmer recorded three more songs. These were unfortunately among the unsuccessful ones.<sup>11</sup>

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<sup>9</sup> 131, 132, and 134 are their protocol numbers at the Österreichischer Akademie der Wissenschaften Phonogrammarchiv (OeAW PHA). The songs are published in a CD: OeAW PHA CD 7: 19, 20, 21. They are also accessible online: [https://kretschmer.oeaw.ac.at/?page\\_id=36](https://kretschmer.oeaw.ac.at/?page_id=36).

<sup>10</sup> Paul Kretschmer, “Notizen der Lesbos-Reise 1901”, Österreichischer Nationalbibliothek, Cod. Ser. 53996, Stück 8, 72. Online: <https://kretschmer.oeaw.ac.at/wp-content/uploads/2022/12/OeNB-Cod.-Ser.-53996-Stueck-8-72.jpg>.

<sup>11</sup> “S(ams)t(ag) 22. Sept(ember) Nachm(ittag) kam der ψάλτης Ευθυμιάδης (ψάλτης in der Kirche von Λουτρά): ich nahm 3 Lieder auf.” Online: <https://kretschmer.oeaw.ac.at/wp-content/uploads/2023/01/OeNB-Cod.-Ser.-53996-Stueck-9-33r.jpg>.

Except for his disappointment with the novel technology that he was imposed to use in his ethnographic research, Kretschmer collected valuable lexicographical and folkloristic material (fairy tales, folk songs, proverbs) through more typical and traditional research methods in Lesbos and managed to write a monograph (Kretschmer, 1905).

## **2.2. Felix von Luschan in Zircirli, 1901-1902**

The main competitor of the emerging sound archive in Vienna was the Berlin Phonogramm-Archiv, whose foundation corresponds to the efforts of Carl Stumpf (1848-1936).<sup>12</sup> The renowned professor of psychology at the University of Berlin recorded a performance in 1900 by Thai court musicians who were making a guest appearance in Berlin with the aid of an Edison phonograph. The focus of Stumpf's collection was on "non-European" musical forms. Yet, thanks to the efforts of the later director of the Berlin Phonogramm-Archiv, Erich Moritz von Hornbostel, the holdings of the Archive greatly increased through international exchange of phonograms with other institutions. Shortly after 1906, the archive was able to cast copper negatives from original cylinders (Reinhard, 1962). Therefore, numerous researchers and centers started sending their recordings to the archive for reproduction and exchange, thus increasing the holdings.<sup>13</sup> Furthermore, researchers of the archive, engaged in field research and came to be known collectively as the Berlin School, contributed to the growth of the archive (Porter, 1974).

The literature on the institution stresses the importance of the appointment of Hornbostel as the director in 1905. Yet, the initiative, advocacy, and sponsorship of Felix von Luschan, then the director of the Africa and Oceania Department of the Museum of Anthropology (*Museum für Völkerkunde*) in incorporating sound recording into (colonial) anthropological and ethnographic research had largely shaped the field in the German context (Ziegler, 2000a; Koch, Wiedmann, Ziegler, 2004; Ziegler, 2009). Shortly after the invention of the phonograph, Felix von Luschan, sensed that this new technology would prove to be an important aid to anthropological research. In an article from 1904, he claimed that he had envisioned using the phonograph as part of his anthropological research as early as 1878-79. Then, later around 1885-86, he claims to have seriously considered taking a phonograph to fieldwork, but he was

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<sup>12</sup> The Société d'Anthropologie de Paris had also established its own sound archive by 1900, largely at the initiative of Léon Azoulay during the Exposition of 1900, who used it as an opportunity to collect recordings and experiment with the novel technology.

<sup>13</sup> The Berlin Phonogramm-Archiv acquired 5600 cylinders between 1900 and the outbreak of the First World War (Cairns 2020: 111).

not satisfied with the technology.<sup>14</sup> He was forced to give up the practical experiments which he had started in the mid-eighties, mostly because the device was still regarded by the majority of the scholarly community as a commercial good and an entertainment item, he was even told that a phonograph “belonged at a fair (*Jahrmarkt*) and not in the museum.” (Luschan, 1904b: 177). He was also unsatisfied with the sound recordings of Franz Boas collected in Siberia and northwestern North America around 1900.

Despite early hesitations, Luschan was encouraged again after listening to a lecture by Otto Abraham and Hornbostel about the potential value of phonographic recordings. When he and his wife Emma were leaving for a fifth (and last) excavation campaign in Zincirli (Sendschirli, the ancient settlement of Sam'al)<sup>15</sup> at the end of 1901, they managed to acquire a small and cheap phonographic apparatus, which weighed slightly more than a kilo. Even though they did not have any experience with this modern equipment, they “[we] quickly learned to master the simple technique” (Luschan, 1904b: 177-78). Luschan was especially impressed by how much time could be saved with this new medium and research method. He confessed that he and his wife needed about three hours to make all the phonographic recordings and another three hours to prepare the written protocols of the registered texts. In other words, their “success” proved that it was possible to collect “results of serious scientific value” (*Resultate von ernstem wissenschaftlichen Werte*) with a negligible investment of time and money (p. 178).

In Zincirli, Luschan oversaw a number of interrelated colonial research projects: a huge archaeological excavation with a crew of nearly 300 people; a racial anthropological study that included measuring body parts, documenting skin colors, and taking portrait photographs for racial profiling; and a history of ancient migrations to Anatolia. The phonograph recordings were a declared side project for him (Luschan, 1904b: 183), but nonetheless unique. He could only dedicate the last few days for this “anthropological and ethnographical work” (Luschan, 1902: 387), but the thirty-three wax cylinders that the Luschans made in 1902 while in Zincirli

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<sup>14</sup> The article is based on a lecture delivered on June 20, 1903. The dates are given as “25 years ago” (which would correspond to 1878-79) and “seven years after that” (ca. 1885-86).

<sup>15</sup> Luschan’s engagement in the excavations in the Zincirli in southeast Anatolia started in the 1880s. During his first visit to the region with Otto Puchstein, they discovered reliefs from the Hittite period. From 1888 onwards, he led several excavations in the area. The first one also involved Carl Humann, the discoverer of the Pergamon altar. The following four excavations that took place between 1888 and 1902 were led by Luschan, with the support of Robert Koldewey (his wife Emma was also accompanying him in these campaigns). The results of these excavations were published in five volumes with the title *Ausgrabungen in Sendschirli* (1893, 1898, 1902, 1911, 1943) and are considered to be significant contributions to the scholarship on Hittitology.

became the first holdings of the Phonogramm-Archiv (Cairns, 2020: 112).<sup>16</sup> On March 1, 1902, the Luschan couple recorded Turkish and Kurdish songs; oral literature and poetry in Turkish (Köroğlu epic), Kurdish, and Georgian (poems by Nikolos Barataschwili); and a song played by a “gypsy” (*Zigeuner*) on the guitar. Their informants were Ali from Maraş, İbrahim from Karayığit, Yusuf Efendi (a Kurd) from Zincirli, a “gypsy” from Zincirli, Ali from Diyarbekir, and a third Ali from Delistekan (!), and a Kurd from Homs (Ziegler, 2006: 552).<sup>17</sup>

Luschan’s own and other publications on the subject, however, focused mostly on the twenty songs in Turkish that were recorded thanks to a 12-year-old Armenian boy from Aintab, Avedis, who was brought to Zincirli because of illness and kept in the German camp site until he was cured. The boy’s “fresh and youthful bright voice” (Abraham and Hornbostel, 1904) was very suitable to be recorded with the phonograph. Based on Luschan’s account, he had an undoubtable musical talent, and he knew by heart a large repertoire of songs despite his young age. Even though the experiences of the Luschan couple on 1 March with several adults had not been very encouraging, they were ultimately satisfied with Avedis’ “unusual intelligence” (unusual for whom? compared to whom?), “genuinely amiable disposition” (*seine wirklich liebenswürdig Gefälligkeit*), and “indestructible good humor” (*unverwüstlich gute Laune*). These exaggerated adjectives and phrases about the little boy hint at the orientaling dynamics of the colonial encounter.

The importance of Luschan for the sound archives of the German Empire lay in his sponsorship for sound recording to be recognized as a clear benefit for anthropological research and for its incorporation into museological collection strategy. In fact, he advocated that ethnographic exhibits of the museum should offer to the public different forms of media, such as photographs, stereoscopic images, cinematographic presentations and a “phonotheque” (1904a: 201-202). Considering all these museological aspects, Luschan prepared a small manual, “Anleitung für ethnographische Beobachtungen und Sammlungen”, (1904a) to guide colonial researchers in their field trips. The manual targeted not only scientists, who made recordings on the archive’s behalf, but also independent explorers, missionaries, and other travelers, who made recordings of their own accord and might be encouraged to deposit their recordings later. Luschan advised

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<sup>16</sup> Only thirty-two of them survive in either their original form, as galvanized casts, or as copies (Cairns 2020: 112). They are accessible at the Berlin Phonogramm-Archiv. “Luschan Vorderasien, 1902”, Ethnologisches Museum, Phonogramm-Archiv, Ident. Nr.: VII WS 211, Staatliche Museen zu Berlin, <https://id.smb.museum/object/750215/luschan-vorderasien>.

<sup>17</sup> In the archival protocol, the place names are mostly wrongly recorded. I corrected “Karaitli” as “Karayığitli” (-li being the Turkish suffix for “from”); “Hamm assly” as “Homs”. “Delistekan”, on the other hand, is more difficult to decipher. It might be Elbistan, Reştikan, or Aşağımestikan.

all potential German scientific/colonial expeditions to be equipped with recording equipment and blank cylinders.

In his preface, he noted the importance of ethnographic knowledge for colonial governance and stressed that political success could only be achieved on ethnographic knowledge, while ignorance of ethnographic conditions would lead to great losses of money and human lives (Luschan, 1904a: 6). Expressing his gratitude to the “faithful cooperation” (*treue Mitarbeit*) of missionaries, as well as the benevolence of German “colonial government and colonial societies” towards ethnographic endeavors, he openly declared that one can only seek and create market outlets (*Absatzgebiete*) in the African and other colonies by gathering knowledge about the “natives” (*Eingeborene*). He concluded his preface with the uncanny colonial motto: “Knowledge is Power” (*Wissen ist Macht*) (Luschan, 1904a: 6). Recent research on the parallel development of German colonial governance and ethnographic knowledge production in Africa clearly shows that his ideas represented the mainstream in Germany (Busse Berger, 2020).

The special section on arts and music, most probably written with the help of Hornbostel, introduced readers to the basics of sound recording (Luschan, 1904a: 58-65) and invited every traveler going to a little explored area to be equipped with a phonographic apparatus to make as many recordings as possible. The booklet provided detailed information on the ideal equipment (*Ausrüstung*), the best technique for good quality recording (*Aufnahme*), and the content of the “journal” to be prepared for each and every recording.<sup>18</sup> In the revised version of the manual, *Anleitung zum ethnologischen Beobachten und Sammeln* (Instructions for Ethnological Observations and Collecting), published in 1914, research teams referred to the Berlin-Phonogramm-Archiv to receive phonographic equipment. The recommended phonographs were Excelsior, Edison Standard, and Edison Home (Fig. 2) with recording and playback diaphragm.<sup>19</sup> In that respect, Luschan’s initial experience with the phonograph in Zircirli had a lasting impact on future ethnographic research in Germany, and also shaped sound collections of the Phonogramm-Archiv. Inspired by Luschan, other members of the

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<sup>18</sup> This document should assign a number to the recording; register the date and place; describe the person (the speaker or the musician) with ethnicity (Volksstamm), name, age, gender, and occupation. Furthermore, the researcher should define the content of the recording (if it was a speech, a song, or instrumental music), specify the title, determine the genre (dance song, religious song, folk song, etc.), and provide the local name for the sound example (Tonart). The text of the song or speech sample should also be carefully transcribed, if possible, with translation. If there exists a native musical notation of the recorded piece, it could possibly be notated in the journal. Performative aspects, such as posture, facial expressions, hand gestures, dance, ceremonial might also be noted. As an optional part of the fiche to be filled, Luschan encouraged the collectors to focus on the specificities of “native music” from a comparative musicology perspective (p. 62).

<sup>19</sup> For the “tropics”, transmission belts should be made of linen (not leather or rubber) (p. 52).

Museum für Völkerkunde also included phonograph in their fieldwork, for example, Albert von Lecoq (Turkistan, 1904), Karl Theodor Preuss (Mexico, 1905), Bernhard Ankermann (Cameroon, 1908), and Richard Thurnwald (Melanesia, 1907).

Figure 2

*Edison Home phonograph and a selection of wax cylinders (ca. 1905)*



Source: Staatliche Museen zu Berlin, Ethnologisches Museum, Phonogramm-Archiv, Ident. Nr.: MV 686 e 16/3, <https://id.smb.museum/object/739656>.

As the wax recordings of the Phonogramm Archive in the period between 1893 and 1943 attest, former German colonies in Africa were represented most strongly in the archive (more than 4600 cylinders, 35.5% of the collection) and they were followed by Asia (more than 3100 cylinders, 25.7%) (Ziegler, 2000b: 192).

### ***3. Conclusion: History of Science, Sound Archives, and Colonial Knowledge Production***

The expedition experiences of Kretschmer (and other Viennese scholars) in 1901 led the Phonogramm Kommission to order the manufacture of a lighter travel device (Graf, 1964). The weight of the new apparatus was reduced by half (around 15 kg.) and could be more successfully

used on expeditions. Based on the first catalogue of the archive published in 1922, the holdings amounted to 3000 recordings, half of them were music and the other half were linguistic, covering different parts of the world (Graf, 1962). One decisive factor in the growth of the archives was experimental ethnographic and (racial) anthropological research done on the POWs (Prisoners of War), as Britta Lange's thorough research demonstrates (Lange, 2013).

As opposed to Kretschmer's reluctance to recommend sound recording as a beneficial technology, Luschan's initial experience with the device was entirely positive. His advocacy of the technology in Zincirli had a lasting impact not only on future ethnographic research, but also shaped the sound collections in Germany. From 1915 to 1918, Luschan was part of the Royal Prussian Phonographic Commission (*Königlich Preussischen phonographischen Kommission*), headed by Carl Stumpf and brought together a research group of thirty anthropologists, linguists, and musicologists. During the First World War, the Commission secretly carried out anthropological, linguistic, and musicological research in the German POW camps (Lange, 2019). As a result, 1651 shellac records (mainly linguistic and some music) and 1022 wax cylinders (exclusively music) were recorded by Wilhelm Doegen and Georg Schünemann. The musical content was kept at the Phonogramm-Archiv, while the voice recordings constituted the foundation of the Lautarchiv (Evans, 2010; Das, 2011). In this sense, the modest beginnings of both archives took a drastic turn during the First World War, transforming ethnographic sound recordings into colonial knowledge production on a massive scale.

Another similarity between Kretschmer's and Luschan's research was that both ethnographic works, essentially attributed to the scientific achievements of these European white male scholars, were produced thanks to the collaboration of "native informants" and the expertise and guidance of locals. In recent decades, the "hidden colonialism" of fieldwork has been problematized from a postcolonial perspective. The contribution of the members of the communities studied as providers of information, translation, and fieldnotes is usually marginalized, while scholars (usually white, mostly male) assume full authorship (Sanjek, 1993). Both Kretschmer and Luschan relied on a single non-Muslim Ottoman subject as the major voice of their recordings. Kretschmer made at least six recordings with Michail Eftymiadis, the chanter of the church in Loutra. While the first three, dated September 13, survive, the other three, dated September 23, do not appear in the archives. His frustration with the weight of the device, coupled with technical problems with the disks and the reticence of the local population, probably encouraged Kretschmer to stick with the same sound source,

even though he thought Michail's voice was not suitable for the phonograph. Furthermore, as the meticulous research of Nikolaros documents, another crucial figure for Kretschmer's research on the island of Lesbos was Michail K. Stefanidis (1868-1957), who served both as an informant for linguistic materials and as a liaison between the Kretschmer and locals at Lesbos (Nikolaros, 2022).

Luschan, on the other hand, made 18 recordings with the 12-year-old child, Avedis, who was brought by his father specifically to Luschan for medical assistance (unclear for what reason). Avedis was brought into the expedition camp and remained there for at least two weeks, while Luschan treated him. In this period, Avedis filled eighteen cylinders in three separate sessions (31 May, 9 June, 11 June 1902) (Ziegler, 2006: 551). As clear from his later publications, Luschan was very satisfied with the recordings of Avedis, compared to other Turkish and Kurdish texts and songs recorded three months before (1 March 1902). Due to their long-term contact in the camp site, Luschan developed a seemingly friendly and collaborative relationship with Avedis. As is evident from the many comments in the footnotes of Luschan's article (1904b), in addition to letting them record his voice, Avedis dictated the texts of the songs to be transcribed. In the process, he repeated the words many times, discussed the meaning of the idioms and phrases, went over the transcripts, and provided comments for revision. Recent excellent studies on the subject acknowledges the contribution of Avedis in this pioneering scientific endeavor (Cairns, 2020: 118; Yavuz, 2020).

In addition to expanding the reach of the history of science towards the "native margins", gendered dynamics of knowledge production might also be stressed. In both cases discussed, we encounter a husband-and-wife research team going on field trips, accompanied by other collaborators and/or students of the husband.<sup>20</sup> Emma von Luschan (1864-1941), née von Hochstetter, the daughter of the esteemed geologist, naturalist, and explorer Ferdinand von Hochstetter, married Felix von Luschan in 1885. She joined her husband in numerous research trips and conducted anthropological work, including making anthropometric measurements, taking photographs for racial profiling and other purposes. Recent research presents her as a "pioneer of field archaeology" (Wartke and Schmitt, 2018) (Fig. 3). Without doubt, Emma was a direct participant in the field recording endeavor in Zincirli, as reflected in Luschan's account (1904b) using the plural pronoun of "we" (*wir*) throughout the article. All four recording

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<sup>20</sup> These early twentieth century examples were repeated again in the 1930s and 40s in the examples of Albert & Erna Eckstein-Schlossmann and Curt & Leonore Kosswig, when they worked and researched in Turkey as (Jewish) German exiles (Maksudyan 2024).

protocols from March 1, May 31, June 9 and 11 also attest to the fact that several Kurdish texts and Turkish songs were actually realized by Emma.

Figure 3

*Emma von Luschan next to the excavated statue, Felix von Luschan on the other side of it (Zincirli, 1902)*



Source: Ethnographic Data Archive, Vienna University Library, <https://phaidra.univie.ac.at/o:2041816>

Leona (Sarolta Grónay) Kretschmer (1881-1955) was born in Budapest, the daughter of the Hungarian optician Stefan Grónay. Her family lived in Innsbruck, Hamburg, and Marburg. She was very well educated and had advanced language skills in Italian, English and French (Cobanoglu, 2021). A year after their marriage on March 17, 1900, 19-year-old Leona was already an important member of Paul Kretschmer's research team during the voyage to Lesbos. She worked as a photographer and played an important role in the creation of the sound recordings, which took place in the couple's room in Mytilene due to the bulky nature of the

phonograph. Most importantly, Leona Kretschmer was able to establish a relationship of trust with female folk song singers, allowing the couple to record their voices on the phonograph. Unfortunately, the recordings of the women were destroyed on the return trip to Vienna. Later in life Leona Kretschmer supported her husband's research in every respect. She often accompanied him on research and lecture tours and also did secretarial work for him (Cobanoglu, 2021: 95).

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These earliest examples of field recording in the Ottoman Empire suggest that the early history of the incorporation of sound reproduction technologies into the research designs of various disciplines has great potential to shed light on the future developments in scientific knowledge production, archival strategies, and museological trends in European metropolises. From the perspective of Ottoman studies, even though later field recordings made in Turkey by Belá Bartók (1881-1945) (made with Adnan Saygun), by Gazimihal and others associated with the Istanbul Conservatoire in the 1920s and 1930s are relatively better researched, further research on other earlier and less well-known cases of “sonic anthropology” (Pasler, 2014) would contribute greatly to the history of science, colonialism, and auditory history.

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