



# THE PIANOLA JOURNAL

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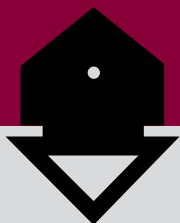
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### **The aims of the Institute**

A small number of pianola owners and musicians have been concerned for some time at the unnatural break between the world of music rolls and the world of music. Few members of the musical public know much about player pianos, and the Institute aims to bring about a better understanding and appreciation of the instrument in a number of ways.

The Institute publishes a regular journal, puts on public concerts, and has plans for a lending library of rolls, a travelling exhibition, and in addition a roll and information archive, with a small collection of player pianos for listening and study purposes.

The Pianola Institute will endeavour to preserve, research and document the pianola's history, to improve the instrument's present standing, and by the commissioning of new compositions, to ensure that it remains an important musical force for the future.

### **The directors of the Institute are:**

Louis Cyr, Keith Daniels, Mike Davies, Denis Hall, Rex Lawson, Claire L'Enfant.

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## Editorial

The quest for historical truth has on occasions something sadly quixotic about it. Humankind is not very adept at remembering its past accurately, and neither has the explosion of technology helped us towards an exact perception of the world in which our forebears lived.

The musicologist who searches for authenticity in music cannot really hope to find it in any spiritual way. All that can be achieved is something approximating the sound quality of early musical instruments, but the mindset of the performer is impossible to reproduce. Bach's secure grasp of Christianity is no longer with us; the confident massed choirs of the era of Parry and Elgar disappeared as the British Empire was slowly dismantled. We cannot return to the rejoicing or yearning of previous generations, and it is idle to pretend otherwise.

In our experience, when authenticity-seekers of romantic music are confronted with historical recordings, they are by-and-large not very interested in them, or they subject the individual leaves of music to such minute examination that the trees remain blurred and the forest goes unnoticed. How to play authentically the music of a composer for whom the concept of authenticity did not exist?

In this quagmire of uncertainty, we have a two-fold responsibility with the player pianos in our care. On the one hand we need to ensure that reproducing pianos really do reproduce, or at least to avoid telling the world that they do, in cases where they clearly don't! And we need to repeat the message, over and over again, that the pianola - the foot-pedalled player piano - is simply an instrument, which will respond differently to the control of each person who plays it.

BBC Radio 3 recently broadcast a piano roll of Scott Joplin's *Maple Leaf Rag*, stating that it was recorded by Joplin himself. In fact the roll is metronomic, so that if Joplin did record anything, then his record was simply used by a roll editor like sheet music, from which a normal, unvarying roll was mechanically punched. Add to that the fact that the CD recording used by the BBC was pedalled at a consistently *forte* dynamic on a not particularly well regulated piano, and one can understand how a modern (Norwegian) ragtime pianist, unaware of the niceties of roll recording, would feel the need to comment thus:

"Well, one has to keep in mind that the piano rolls are very mechanical renditions, and the system that these were recorded on was not advanced. It's like really hearing a machine play. It's not really how he sounded, I think. I think it was much more graceful and swinging than these stiff rolls give the impression."

It is sad, though perhaps understandable, that the BBC should not know any better, but it is to its discredit that it failed to acknowledge or respond to a letter from the Pianola Institute. No doubt its severely curtailed budget causes such ill-informed research, but in the face of this broadcast ignorance, we must redouble our efforts to spread the truth.

In this issue of the Pianola Journal we are delighted to be able to publish Gerhard Dangel's masterful thesis on the history of the Welte family and its commercial empire. Gerhard's local knowledge of Freiburg and its surroundings makes him the ideal scholar for the task, and he has unlocked a real treasure trove of rare illustrations.

Indeed, all our feature articles have a teutonic accent: Jeanette Koch's novelle about a wealthy Cologne family and its forgotten Welte roll collection, and Dr Werner König's perceptive essay on Welte's repertoire and recording techniques underline the common musical heritage which we all share.

Finally, if we may be allowed to stray into the realms of self-publicity, may we draw to the attention of our international and academic readership the website which we host at [www.pianola.org](http://www.pianola.org). In keeping with our quest for truth, we do our very best to ensure that its pages are both detailed and accurate, although their completion is a never-ending task. Those institutions which appreciate this project could greatly help us, by providing links to the Institute from their own websites. There are many voices clamouring for attention on the worldwide web, not always with the strict regard for truth so favoured by Matilda's aunt, so any salvos of institutional firepower would be most gratefully received.

# A History of M. Welte & Sons – the Family and the Company

Gerhard Dangel, translated by Rex Lawson

## Introduction, The Geographical Background

The firm of M. Welte und Soehne was principally associated with the town of Freiburg-im-Breisgau, but it was already a very successful enterprise when it moved there in 1872. Before that time the Welte family lived in the little town of Vöhrenbach, formerly controlled by the Landgrave of Stühlingen, in the principality of Fürstenberg, but which is now at the western edge of the modern county of Schwarzwald-Baar. The earliest member of the Welte family of whom anything is known is Jacob Welte, born in Sumpfohren in 1767. With only 275 inhabitants, Sumpfohren is today the smallest district of the town of Hüfingen. In the 18th century both Sumpfohren and Hüfingen belonged to the Fürstenberg county of Wartenberg.

The land ruled by the princes of Fürstenberg united a number of disparate counties in and around the Black Forest, the Upper Rhine and Lake Constance, as well as the Swabian Alb. During the Reformation the Fürstenbergs remained Catholic. From 1723 onwards the seat of government was Donaueschingen, nowadays in the county of Schwarzwald-Baar, and until 1970 the county town. In 1806 the territory controlled by the Fürstenbergs was amalgamated into the Grand Duchy of Baden.



*Illustration 1: Map of the Principality of Fürstenberg, being part of a copperplate engraving by Johann Baptist Hofmann, Nuremberg 1718. Taken from: Atlas Germaniae specialis Sev Systema Tabularum Geographicarum.*

## **Chapter 1, The Welte Family**

### **1. The Earliest Known Welte**

#### **1.1 Jacob Welte and Franziska Stöhr**

Jacob Welte, father of Michael, who founded the company that bore his name, was born on 13th October 1767 in Sumpfohren, near Donaueschingen. All that we know from the record of his baptism is that his father's name was Joseph Welte, and that he was born in wedlock.

On 26th April 1796, Jacob Welte was married in Vöhrenbach to Franziska Stöhr, who was born on 28th February 1768 in the same town. In the church marriage register his occupation was given as "Weissgerber," the equivalent of a tanner, but for white leather.

Franziska died at the age of 70 on 24th April 1838, and her husband, who was one year older, on 2nd October of the same year, both in Vöhrenbach. The couple apparently had six children in all, but we only have significant information about three of them, namely Michael, Valentin and Fidelis.

### **2. Michael Welte and his Brothers**

#### **2.1 Valentin Welte and Maria Zugschwerdt**

Valentin Welte was one of the witnesses at his younger brother Michael's wedding, and from this we know that he was born on 12th November 1799 in Vöhrenbach. In the entry in the church marriage register he was noted as a "Spieluhrenmacher," which at that time generally meant a maker of musical clocks. On 2nd May 1839, in the same town, he married Maria Agathe Zugschwerdt, and on this occasion his occupation was described as "Weissgerber und Messner, Spieluhrenmacher," which adds the occupations of tanner and sexton to his range of abilities. The couple had two children. It is not known when and from whom he learned the craft of musical clock manufacture.

Valentin died on 28th February 1876, and his wife in 1878, both in Triberg.

#### **2.2 Michael Welte**

We know considerably more about Michael Welte, born on 28th September 1807 in Vöhrenbach, than we do about his brothers and sisters, because he was regarded as an important figure in his own lifetime. As early as 1858, the Report of the Commission of the Black Forest Industrial Exhibition in Villingen dedicated an extensive article to him.<sup>1</sup> In 1895, long after his death, the Freiburger Zeitung still ran a feature article on his life.<sup>2</sup>

As a result, therefore, it is known that after general schooling in Vöhrenbach, Michael spent two years, between the ages of 15 and 17, with his uncle, the Revd Joseph Kleiser of Mauenheim, who gave him a general high school education, as well as training him in music.<sup>3</sup> As an academically minded man, the Revd Kleiser, who also came originally from Vöhrenbach, played a vital family role as advisor, pastor and educator, a fact that is confirmed by a

recently rediscovered letter in the family archive.

On 1st October 1824, the 17 year old Michael began a five year apprenticeship as musical clock maker with Jakob Blessing (1799-1879), an independent craftsman who had set up in business with his brother Johann (1803-1872) in their home town of Unterkirnach.<sup>4,5</sup>

In 1832, at the age of 24, Michael himself became an independent manufacturer, in his parents' house in Vöhrenbach. For a time he worked with his brother Valentin, who was eight years older, and it is possible that his younger brother, Fidelis, was also involved. Until about 1845 the firm was called "Gebrüder Welte" (Welte Brothers).

On 23rd July 1838 Michael was married in Vöhrenbach to Maria Adelheidis Ganter, the daughter of the Vöhrenbach innkeeper, Johann Baptist Ganter. The couple had ten children, of whom the first and third died in infancy. The last child died when only two days old, and Maria followed shortly afterwards, on 21st April 1857.



*Illustration 2: Company Seal of Michael Welte's business.*

For the sake of completeness, the children's details are as follows:

1. Emilia (1839-1840)
2. Emil (1841-1923)
3. Maria Auguste (1842-1853)
4. Franz Berthold (1843-1918)
5. Hortensia Weiss, née Welte (1845-1920)
6. Emilie Adelheid Mayer, née Welte
7. Michael (1848-1920)
8. Anna Franziska Geis, née Welte (1849-1927)
9. August Adolph (1854-1854)
10. Julius August (1857-1857)

At the age of 52, Michael Welte re-married. The wedding took place on 9th May 1859 in Vöhrenbach, to Waldburga Ignatia Schleicher, born on 25th February 1829 in Villingen. The couple had one child, Karl Alfred, born on 10th October 1861, but he died when he was only two years old. Michael's second wife died on 6th April 1866.

In 1872 Michael Welte moved his business from Vöhrenbach to Freiburg,

and in the same year he was awarded the Ritterkreuz (Knight's Cross), second class, of the Zähringen Lions. Two years later, in 1874, he moved his home to Freiburg as well, living in the Lehenstrasse (later Lehener Strasse) with Berthold and Michael jr. In 1875 Michael Welte had to have his right leg amputated, and on 17th January 1880 he died, also in Freiburg im Breisgau.

### **2.3 Fidelis (Fidel) Welte and Maria Winterhalter**

The youngest Welte brother, Fidelis, who was born on 4th September 1809 in Vöhrenbach, was presumably also involved in the family firm of Gebrüder Welte (Welte Brothers). The course of his life is as little known as that of his older brother, Valentin, ten years his senior. At any rate his occupation was given as "Musical Clock Manufacturer" at his wedding in 1838 to Maria Winterhalter.

The couple had four children. Fidel died on 4th January 1844, at the age of only 31. It is possible that the business title of "Gebrüder Welte" ended as a result of his early death.

## **3. Michael Welte's Children**

### **3.1 Emil Welte and his Descendants**

Emil Welte was born on 20th April 1841 in Vöhrenbach, the eldest son of Michael Welte. He attended the Grand Ducal Clockmaking School in Furtwangen, which had been founded in 1859. Part of his obituary in the *Zeitschrift für Instrumentenbau* (Instrument Manufacturing Journal) runs as follows:

"... He took up the craft of clockmaking, and in particular that of musical clocks. Even in his youth he showed such aptitude and mastery of the subject, that at the age of 21 [sic] he received the honour of a commission from the Grand Duke Friedrich of Baden, to represent the Black Forest clock and musical box industry at the London Exhibition of 1861."<sup>6</sup>

In 1865 or 1866<sup>7</sup> he travelled to the USA, to instal an orchestrion in the well-known Atlantic Gardens of William Kramer in New York. This was for many years one of the sights of New York. As a means of representing his father's business in the USA, he set up the firm of M. Welte & Sons. A further orchestrion, erected under his supervision in Theis' Alhambra Court became another well-known attraction, and was the same model as the instrument built for Adelina Patti, the famous opera singer.

In 1871 Emil married Emma Foerster, born in 1853 in Norwich,



*Illustration 3: Emil Welte  
around 1912.*





*Illustration 4: (Inscription on the rear of the photograph) – Emil and Berthold Welte, and Eschle, one of our workers from 1849 onwards, in St Paul, at the Minnehaha Falls, in 1873.*

Connecticut, the daughter of a German immigrant from Prussia. For a while the couple lived in Norwich, and then from 1880 onwards in College Point, a township in the borough of Queens, New York.

On 2nd January 1883 Emil Welte applied for US Patent no. 287,599, which allowed the Welte firm to protect the principle of regulating the playing of musical instruments by means of a perforated music roll controlling pneumatic valves and pneumatic motors. This was followed on 28th October 1883 by a similar German Reichspatent, no. 26,733. As far as the firm of Welte was

concerned, the new principle used perforated paper rolls to replace the former pinned wooden cylinders as note controlling devices for its instruments, but it also established a form of double pneumatic valve action which became an accepted industry standard, and all other companies whose instruments used such a device had to pay licence fees, a not inconsiderable source of income for the Welte organisation.

In 1914 Emil Welte moved back to Norwichtown, a district of Norwich, Connecticut, where he spent the evening of his life. He died on 25th October 1923.

Emil and his wife had two children: Carl M. Welte, born in 1872, and Emile Welte, born in 1873, but who died in 1880 at the age of seven.

### 3.1.2 Carl M. Welte

Carl M. Welte was born in Norwich, Connecticut, in August 1872. Nothing is known about his early life. However, since he was awarded countless patents by the US Patent Office, he must have had a good technical education. On returning for a trip to Germany with his father in June 1905, both men gave their occupations as “Merchant”. In the Census record for 1900 he is described as a bookkeeper, and in the 1910 Census as a music dealer.

In 1905 Carl married his wife, Annie. The couple had no children.

In 1906 Carl Welte designed the cover page of the Welte Artistic Player Company catalogue for his cousin Edwin, along with a logo for the Welte-Mignon. This logo is subsequently found on all printed material for the Welte-Mignon, but only on this early catalogue are the words “Copyrighted by Carl M. Welte” to be found.

Although Carl’s father, Emil, was opposed to using the American Welte firm for the sale of the Welte-Mignon, Carl nevertheless seems to have worked together with his cousin, Edwin. He was active in the US firm until the sale of M. Welte & Sons, Inc., as a result of the First War. There is no information about his life after 1919, but one can surmise that the American Weltes had made enough money to be able to support themselves agreeably thereafter. A letter from 1950 to a relative in Freiburg indicates that Carl still lived in Norwich, Connecticut, at that time, at 34 East Town.

### 3.2 Franz Berthold Welte and his Descendants



*Illustration 5: Carl M. Welte around 1912.*





*Illustration 6: Berthold Welte and his wife, Maria, around 1914, in the garden of the Company Villa.*

Berthold Welte was born in Vöhrenbach on 24th September 1843 and baptised the very same day. The witnesses to the baptism were: "Jakob Blessing, musical clock maker from Linach, and Valentin Welte, the local sexton, the former as godparent together with Emerentia Stöhr, wife of the locksmith Georg Faißt of Vöhrenbach."

Nothing is known of Berthold Welte's schooldays. In 1866 he finished a commercial apprenticeship with Mathiss & Leipheimer, drapers by appointment to the court in Karlsruhe. In 1867 he represented the firm of M. Welte & Sons at the World Exhibition in Paris.

On 10th November 1873 Berthold Welte married Maria Emile Mayer (1852-1930), the daughter of Emilian August Meyer (1826-...) and Maria Anna Jägler (1827-...). The couple had three children, as follows:

Maria Adelheid Frieda Welte - born 17th November 1874 in Freiburg, and died there on 18th July 1930.

Edwin Emil Welte - born 28th March 1876 in Freiburg, and died there on 4th January 1958.

Emil Welte - born 16th April 1879 in Freiburg, and died there in 1936.

On the death of Michael Welte in 1880, the business of M. Welte & Sons

was taken over by his three surviving sons. Berthold was awarded the Ritterkreuz (Knight's Cross), first class, of the Zähringer Lions in 1894, echoing his father's similar achievement 22 years earlier. In 1900, Michael Welte retired from the business, and Berthold's son, Edwin, and his son-in-law, Karl Bockisch, were taken in as partners in the firm. At Christmas 1908, the Grand Duke of Baden gave Berthold Welte the title of Kommerzienrat (Commercial Advisor to the Council), and he died just over nine years later, on 29th January 1918.

### **3.3 Hortensia Welte**

Hortensia, the eldest daughter of Michael Welte, was born on 21st June 1845 in Vöhrenbach, and married Gustav Weiss, an organ builder from Waldkirch, who had probably learned his craft in his home town.

Weiss presumably played an important part in the Welte business, since from 1874 to 1876 he lived in the Welte house at 7 Lehener Strasse, and his occupation in the local directory is given as "Orchesterfabrikant" (orchestration manufacturer).<sup>8</sup> In the index of residents he is noted as the proprietor of a repair workshop in Saratov, which was a city in southern Russia with a strong German community.

The date of the couple's marriage is not known, but they had two children, Maria, born in Freiburg in 1874, and Olga, born in 1881 in Moscow.<sup>9</sup> Since Gustav Weiss is not listed in the Freiburg directories after 1876, it is possible that they had already moved to Russia by that date.<sup>10</sup> In any case there are Welte letterheads from 1885 with the imprint, "Branches in New York, Moscow and Saratov".

Hortensia Weiss was registered again in Freiburg from 1894 onwards, with "previous residence in Moscow" duly noted.<sup>11</sup> She moved to a house at 16 Wentzingerstrasse, shown in the directories as having been newly built in 1887, and owned by the firm of M. Welte & Sons. The dwelling was occupied from new by Michael Welte jr and his wife, Hedwig, née Sauer, who seem to have taken in Hortensia and her two daughters. Even when Michael jr moved in 1911 to a house which he had himself purchased at 5 Bernhardstrasse, his sister and her two daughters moved with him.

At this point the historical sources provide no more information. All that is known further about Gustav Weiss is that he seems to have died in Saratov around 1899.

### **3.4 Emilie Adelheid Welte-Meyer**

It is not even known exactly when and for how long this daughter of Michael Welte lived. At any rate, family tradition suggests that she married a Swiss paint manufacturer, Philipp Meyer, and that she had one son, named Heinz.

### **3.5 Michael Welte jr.**

Not much is known about the youngest of Michael Welte's sons, born on 20 September 1846 in Vöhrenbach. The street directories show that he was living in Freiburg by at least 1862. In 1874 or thereabouts Michael jr married Hedwig Sauer, born in Aichhalden in Württemberg, and the couple, who had no children of their own, lived with the rest of the Weltes in the newly-built family house at 9 Lehener Strasse. After the death of his father in 1880, Michael and his two brothers, Emil and Berthold, took over the running of the family firm, where he was in charge of technical matters, according to family tradition.

In 1888 Michael jr moved from Lehener Strasse to the firm's new office and residence at 16 Wentzingerstrasse, taking his sister and her children with him, as mentioned above. After 1900, when his nephew Edwin and the latter's friend, Karl Bockisch, entered the family firm, Michael jr retired from business affairs. He died on 24 August 1920 in Freiburg, at the age of 74.

### 3.6 Anna Franziska Welte

Anna Franziska (Fanny) Welte married the Freiburg architect, Nikolaus Geis, in 1874.

## 4. Berthold Welte's Children

### 4.1 Maria Adelheid Frieda Welte

Frieda Welte was born on 17 November 1874 in Freiburg, and on 9 June 1896 she married Karl Bockisch, her brother's close friend. The couple had three children, Frieda, Gertrud and Karl Bockisch jr.

Later in her life, Frieda contracted a severe pulmonary illness. On 18 July 1930 she took her own life, and also that of her mortally ill mother.

### 4.1 Edwin Emil Welte

Edwin Welte was born on 28 March 1876 in Freiburg and attended grammar school there. At school he formed a close friendship with Karl Bockisch, who had come to Freiburg with his family in 1888. Even when the Bockisch family returned to Sternberk in Moravia, the friendship was not broken; Edwin visited the Bockisches there and Karl, for his part, visited the Weltes in Freiburg. The two friends were even trained together in the Welte business, and as far as is known, neither of them received



*Illustration 7: Frieda Bockisch in about 1900.*

further education in the public sector. But the firm had become large enough to provide every opportunity for a sound education, both from a business and technical point of view.

It should be noted that Edwin, as the only child entitled to inherit the running of the business, was thoroughly prepared for his future task as director of the firm. In 1895 he travelled for the first time to New York, certainly to visit relations, but also to get to know “the American business”, as his uncle’s firm, M. Welte & Sons, was known. On arriving in the US, he gave his occupation as “Manufacturer”.

In 1897 Edwin married Betty Dreyfuss, his childhood love, the fourth daughter of Samuel Dreyfuss and his wife, Fanny Goldschmidt. At first the couple lived at their own home in Bismarckstrasse, but moved in 1902 to the newly-built family villa in Lehener Strasse. In 1900, when his uncle Michael jr decided to retire from the business, Edwin Welte and his brother-in-law, Karl Bockisch, both entered the firm as his replacements. As was frequently referred to in literature published by the firm thereafter, both men began in that year to develop the recording and replay technology for the later “Welte-Mignon” reproducing piano.

The German Reichspatent for this invention was no. 162708, in effect from 21 May 1904, and entitled “Device for controlling the force of keystrokes in mechanical musical instruments”. Also in 1904 Edwin travelled again to the USA, no doubt to register the patent in that country, arriving there on 31 March 1904. The formal US patent application was dated 17 August 1904, but not issued until 17 November 1911, on account of infringement claims.<sup>12</sup>

In the years that followed Edwin made frequent trips to the USA, together with his wife Betty, in order to sell the “Welte”, as the instrument was known in America from the very beginning. These visits often lasted for several months, and from 1912 onwards Edwin and Betty seem to have spent longer on the far side of the Atlantic than they did in Germany, although one cannot be certain, since the surviving passenger lists make it only possible to research entries to the US, and not departures.

A wealth of postcards belonging to the Welte family, and sent by Edwin to his wife Betty, were passed to me only a few days before the preparation of this article, and bear witness to an enormous schedule of business trips around Europe and North America. The material is so extensive that it could not be taken into account in the writing of this essay, but I have discussed Edwin Welte’s business activities in more detail in the following chapter.

In 1914 Edwin was on his way back from the USA via England, when war broke out. As a sergeant in the army reserves, he was called up immediately and served until 1918, latterly as lieutenant. He was decorated with the Iron Cross, First Class.

Edwin and Betty Welte had no children. According to family sources, this





*Illustration 8: Edwin and Betty Welte with dog, about 1902.*



*Illustration 9: Edwin Welte as lieutenant in the Imperial Army.*



seems to have become a problem after the first few years of marriage, since Edwin was very fond of children, whereas Betty was not. However, in 1927 the unhappiness subsided; Edwin had an extra-marital relationship and a child was born.

In 1931 the firm got into financial difficulties, and Edwin Welte stepped down as a shareholder and as business director. At this time he was certainly occupied for a time with the development of his Light-tone-organ, and in March 1931 he founded a Swiss company, Electro-Acoustic Musical Instruments AG, Basel, which was to manufacture the instrument. The surviving correspondence in this regard bears witness to much travel and long periods of work in Berlin and Weikersheim in Württemberg. From 1935, apparently, he no longer had his home in Freiburg, once he had begun a joint project with the master organ builder Faass at the organ component factory August Laukhuff in Weikersheim, on the prototype of the Light-tone-organ.<sup>13</sup> In 1936 he lived with his daughter and her mother in Berlin, and then later in Weikersheim.

Betty Welte continued to live in Freiburg, and built a house there with



*Illustration 10: Edwin Welte and his second wife, Elisabeth, née Schmitt.*

her niece, Gertrud Wolf, in 1934/35.<sup>14,15</sup> Betty and Edwin had apparently underestimated the consequences of the Nazi party and its persecution of the Jews. By 1936, when Edwin Welte was classified as “politically unreliable” by the Nazis on account of his Jewish wife, and his Light-tone-organ Project foundered as a result, it became necessary to find a solution. Consequently, the couple

were divorced in 1937. Betty Dreyfuss travelled via Italy to the USA, where her brother, Barney (Bernhard), had lived since 1881 and become an extremely successful businessman, and where her sister Rosalia had settled after marriage in 1896. Two postcards which she sent to Edwin Welte from Italy testify to the love which still bound them.

In 1940 Edwin Welte married the mother of his daughter, Liselotte, in Weikersheim.

During the war the family moved back to Freiburg. Edwin Welte was for a short time involved with the Radio Scientific Institute at the University of Freiburg, where he worked on the construction of a reading machine for the blind. This work came to an end with the extensive destruction of the town and the Institute on 27 November 1944. After the War Edwin Welte tried again to produce not only his Light-tone-organ, but also the blind reading machine, but without success on both counts. Together with his brother-in-law, Karl Bockisch, he lived to experience the dramatic recording of Welte piano rolls for LP records in 1948 by Richard Simonton.<sup>16</sup> In 1955 he suffered a stroke, and then in 1956 Telefunken recorded a number of music rolls for LP on his own grand piano, and he was presented with a radiogram by the firm to mark the occasion.

Edwin Welte died on 4 February 1958 in Freiburg.

#### **4.3 Emil Welte**



*Illustration 11: Edwin Welte at his Steinway-Welte grand piano.*



The third child of Berthold Welte, Emil, who was born on 16 April 1879 in Freiburg, was slightly handicapped. He died in Freiburg in 1936 as a result of a gastric illness.

## 5. The Dreyfuss Family

The Dreyfuss family came from Altdorf near Lahr, and lived in Freiburg



*Illustration 12: Betty Dreyfuss and two of her sisters.*

from around 1865. Samuel Dreyfuss was born in Altdorf in 1832, but there are no details of dates for his wife Fanny, née Goldschmidt. The birthplace of the couple's two eldest children, Rosalia (b. 1862) and Frieda (b. 1864) was still Altdorf, but the third, Bernhard, or Barney, as he was later known, was born in 1865 in Freiburg. Betty was born in 1873 and Franziska in 1874, and so all the children effectively grew up in Freiburg and were educated there.

Samuel Dreyfuss was by all accounts a wealthy man: in the directories of the time he is described as having independent means. His son, Bernhard, who became known as Barney to his American friends, emigrated to the USA in 1881 at the age of 16, where he settled in Paducah, Kentucky, and lived with his relatives, the Bernheims, for whom he also worked. The Bernheim family controlled the whisky distillery of Bernheim Brothers & Uri, where Barney first of all washed out the bottles, but very soon worked his way up. In 1888 the firm, and Barney with them, moved to Louisville, Kentucky, where they had taken over a larger distillery. Barney Dreyfuss was an extraordinarily efficient and successful businessman, who made a great fortune as a result. He became President of the Pittsburgh Pirates, founded in 1882, and in 1903 he founded

the baseball World Series, and became an important force in American Pro Baseball. He also played his part as a stockholder of M. Welte & Sons, Inc, when it was founded in 1914.<sup>17</sup>

The second oldest daughter of the Dreyfuss family, Frieda, died in 1892, and in 1893 Samuel travelled with his daughters, Betty and Franziska, to the USA. Samuel Dreyfuss died in 1896, at which time his eldest daughter, Rosalia, already lived in the USA, where she had married Bernhard Bernheim in Louisville, Kentucky. She seems to have travelled there before 1892. To help administer his father's will, Bernhard/Barney travelled back to his home town.<sup>18</sup> In 1897 Betty married Edwin Welte, and from this point on, no trace of the Dreyfuss family is to be found in the Freiburg directories, from which one may surmise that all the rest lived in America.

## **6. The Bockisch Family**

Johann Bockisch, born on 9 January 1846 in Sternberk in Moravia, was married in 1871 to Maria Rieb, also born in Sternberk, in 1851. The couple had five sons, of whom two died young, Hans (1872-1899) and Paul (1883-1884). Karl was born on 10 January 1874, Heinrich on 26 August 1876, and the youngest brother, Fritz, on 2 April 1882. The family was very prosperous, as can be seen in its receipts and payments book, still in the possession of the present generation, but they evidently felt the need to change the direction of their lives.

Johann Bockisch travelled to America in July 1885, where he bought a ranch in Anaheim, California, with the intention of becoming a farmer. His family followed him in September of the same year. Unfortunately the climate did not suit the Bockisches, or at least the father and his son, Fritz, and so in 1887 they sold the ranch, and travelled back to Europe via Sacramento, New York and Bremerhaven, ending up in Freiburg, where the family arrived on 25 August, staying at the Bären Hotel.<sup>19</sup>

In 1888 the Bockisch family lived in Hildastrasse, but moved in 1889 to Kartäuserstrasse, where they had bought a house. The children went to school in the neighbourhood and thus the Bockisch kids met the Welte children and became friends. In 1892 the Bockisch family returned to Sternberk, and in 1893 Karl Bockisch travelled again to Freiburg, in the company of Edwin Welte, who had visited him in Sternberk. There he began his apprenticeship with the Welte firm, probably on 1 October of that year.

In 1896 Karl Bockisch married Edwin Welte's sister, Frieda, and the couple moved to the Welte residence at 16 Wentzingerstrasse, where Michael Welte jr and his sister Hortensia Weiss already lived. Around 1902, together with Betty and Edwin Welte, they moved to the newly-built family villa in Lehener Strasse.

In 1903 the Bockisch parents moved back to Freiburg from Sternberk. Fritz Bockisch studied chemistry and had no connection with the firm of Welte. Karl Bockisch's brother, Heinrich, was also taken into the Welte firm, no later



*Illustration 13: The Bockisch family on 16th January 1910.*

*Rear left: Karl Bockisch, Heinrich Bockisch and Fritz Bockisch with their wives. Right: Johann and Maria Bockisch.*

*Front row: The children, Frieda, Gertrud and Karl. Middle: Grandmother Bockisch.*

than 1910. It is likely that he was given training for his future career in the firm, and it was intended that he should be responsible for the construction and subsequent direction of the factory at Poughkeepsie. On 9 October 1910 he travelled with his wife, Paula, to the USA, giving as the purpose of his trip: "Visiting friend Karl Welte, 5th Ave, New York".

On a further entry to the US on 17 August 1914, his destination had become "Home: 120 Franklin Street, Poughkeepsie, N.Y." In fact Heinrich Bockisch steered the American Welte firm through the whole of the First War, although he was for a time arrested on the grounds of "pro-German activities", and had to struggle the whole time with patent infringement cases. He died in Poughkeepsie in 1919, in mysterious circumstances, and the cause of his death was never established.

## **Chapter 2, The Firm**

### **1. Gebrüder Welte - Welte Brothers**

On the completion of his apprenticeship in 1832, Michael Welte set up in





*Illustration 14: The Welte family in 1912 in front of the entrance to the family villa in Lehenerstrasse.*

*Front row, from left: Emil Welte, Berthold Welte, Michael Welte jr.*

*2nd row: probably Emil's wife Emma, Carl M. Welte, probably Carl's wife Annie.*

*3rd row: Edwin Welte, Berthold's wife Maria, an unknown lady, and, at the back, an unknown man.*

business on his own, at his parent's house in Vöhrenbach. For a time he worked together with his eight year older brother, Valentin, and his two year younger brother, Fidel, who died in 1844. The title "Gebrüder Welte" appears on several musical flute clocks up to about 1845, after which time the firm was known simply as "Michael Welte".

As his success grew, Michael Welte tried his hand at larger and larger mechanical instruments, which no longer had much in common with the original flute clocks. From about 1840 onwards he received commissions for



*Illustration 15: Michael Welte around 1845.*

instruments from St Petersburg, Moscow and Odessa. The most important project for the future direction of the firm came in 1846, when he was commissioned by a certain Herr Stratz from Odessa in Russia to build a "large orchestrion". This unusual instrument was to reproduce all the voices of the orchestra, and it contained around 1100 pipes. After three years of work it was demonstrated to an astonished public in Germany, before its delivery overseas.<sup>20</sup>

At the instigation of the Polytechnic School of the Grand Duchy of Baden in Karlsruhe, it was exhibited in the garden hall of the Karlsruhe Museum Association on 23 and 24 March 1849.<sup>21</sup> The event drew many thousands of visitors, who gazed in wonder at the instrument, and it even commanded



respect from expert musicians. As a result of public enthusiasm, a series of “Orchestration Concerts” was presented daily, over a period of weeks until the end of April. Afterwards the instrument was delivered to Odessa by Michael Welte himself.

With this instrument, Michael managed to include the most complex musical arrangements, such as the Grand Concerto in F minor<sup>22</sup> and the Jubel Overture<sup>23</sup> by Carl-Maria von Weber. Other pieces included the overtures from *Norma*, *Zampa*, *Fra Diavolo* and *William Tell*, as well as selections from Haydn’s



*Illustration 16: Michael Welte in front of an orchestrion in his workshop in Vöhrenbach in 1867. In his right hand, Michael is holding the sheet music of the Overture to the Opera, *Der Freischütz*, and in his left a hammer for pinning the musical barrel. Fridolin Seiber, oil on canvas, Augustiner-Museum Freiburg.*

Creation, which were all programmed in to wooden barrels.<sup>24</sup>

The Grand Duke Leopold of Baden (1790-1852) awarded Michael Welte the “Gold Medal for Art”, the Prince of Fürstenberg gave him a silver medal from the Royal Family. The Grand Duchess Stephanie presented him with a guest book, in which all important visitors to the Welte company between 1849 and 1928 entered their signatures and comments.<sup>25</sup> The Grand Duke took first place in the book with the following words:

*“I share an admiration for your musical creation with all those who have found pleasure in it: but that a citizen of Baden should have succeeded, by his artistic sensibility and perseverance, in achieving something so outstanding, gives me an especial pleasure, my dear Welte, in paying you my heartfelt respects.*

*Karlsruhe, 30 April 1840 - Leopold, Grand Duke of Baden”*

Shortly afterwards the instrument was put on display in Frankfurt, where the German National Assembly was currently sitting. The President, Archduke Johann of Austria, signed the book and commented:

*“It has given me great pleasure to hear the music played by your invention, and it evokes in me an especial satisfaction, in that something so perfect and so magnificent should once again spring from the creation of German workmanship. I am delighted to be able to express my best wishes for the success of your endeavours.”<sup>2</sup>*

This instrument brought world renown to the House of Welte, and its instruments were soon to be found in the concert rooms of princes, and in the salons of high society.

In 1856, Michael Welte began the construction of an instrument for the Grand Duke Friedrich of Baden, which took 33 months in all to build. By 1858 he was already employing 11 workers, and at the Black Forest Industrial Exhibition at Villingen in 1858, he presented an orchestrion which had already been sold to a client in St Petersburg, and which won a gold medal as a result of its “outstanding richness of tone, and the refined shading of its individual voices.”<sup>1,26</sup>

In 1862 the Grand Duke sent the instrument constructed for him to the London International Exhibition on Industry and Art, where it was continuously demonstrated, and as a result Michael Welte was awarded a prize medal. The firm was represented at the exhibition by Michael’s eldest son, Emil, who had been fully trained at the Grand Ducal Clockmaking School in Furtwangen, and was a practical member of his father’s workshop team. In his obituary in the *Zeitschrift für Instrumentenbau* (Instrument Manufacturing Journal), he was described in glowing terms:

*“Even in his youth he displayed such a genius and mastery of his subject that in 1862, at the age of 21, he was accorded the great honour of being entrusted, by the Grand Duke Friedrich of Baden, with representing the Black Forest clock and music box industry.”<sup>6</sup>*

The instrument exhibited in London was thought worthy of an article by the Illustrated London News, which described and explained to its readers not only the instrument, but also the reasons for its name.

#### MR M. WELTE'S ORCHESTRION <sup>27</sup>

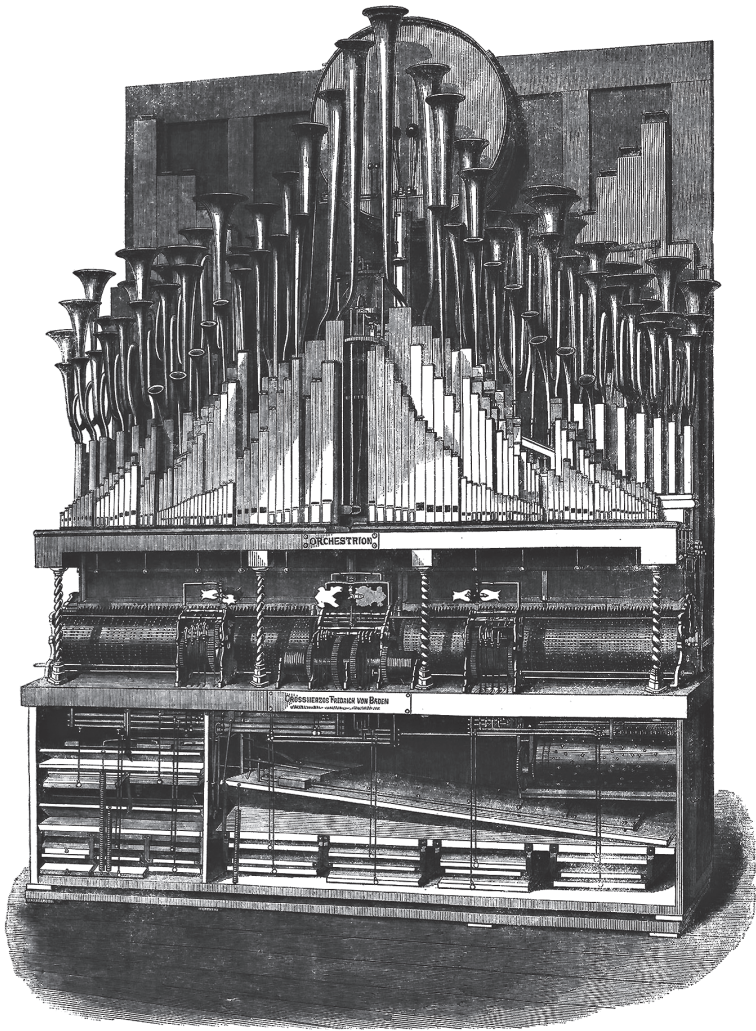
*In the western transept, near the end of the Zollverein department, is a self-acting organ or, as it is named, "an orchestrion," from the number of different instruments it plays - producing the effect of a band or orchestra on a small scale - of very ingenious and elaborate construction, and perhaps the largest and most powerful as well as most perfect instrument of the kind yet produced. It has been constructed for his Royal Highness the Grand Duke Frederick of Baden, by those whose permission Mr Welte exhibits it. The instrument has 39 barrels, 15 different registers, with 524 pipes - imitating flutes, flageolets, piccolos, oboes, trumpets, horns, trombones. &c. The wind for these instruments is supplied by three pairs of bellows, which again supply four wind-reservoirs, whence it is conducted to the pipes. These bellows are all worked by self-acting machinery. Besides the wind instruments already named, the instrument contains a big-drum, kettle-drum, small military-drum, triangles, and cymbals.*

*The orchestrion performs a number of overtures and pieces of music, among which are the overtures to "Der Freischütz," "Oberon," "William Tell," "Martha,"<sup>28</sup> the "Midsummer Night's Dream,"<sup>29</sup> some symphonies of Beethoven, &c., played with considerable precision and correctness, and in excellent time, and the forte passages are given with great effect. When the full number of instruments is played the tone is very powerful, and the effect almost equal to a small band. The self-acting machinery for playing the instrument is exceedingly well constructed, and is very ingenious. Two principal wheels put it in motion, and it is kept going by means of weights. The barrels or cylinders move in a spiral line, and are pushed forward after each revolution in order to bring a different set of pins under the keys, so that each barrel contains a much greater number of pins or notes than ordinary; and thus long pieces of music can be played without a change of barrels. Each barrel makes eight revolutions, and at the conclusion of the piece returns to its original position. The forte effect is produced by giving a greater supply of wind to the pipes at the moment required. This is done by supplementary machinery for blowing, which comes into action when extra wind is wanted, and by this means the instrument is prevented being ever short of wind, and a full and regular supply is kept up. The music is marked on the barrels by a cleverly-contrived time-machine, which pricks or marks the spots where the pins are afterwards inserted which are to move the keys or levers which permit the notes to sound. By this time-machine barrels can be marked with the greatest accuracy and precision, the marker playing the notes as if performing on a keyed instrument.*

*We understand that a great many orchestrions have been sent by the manufacturer to Russia, where they are much patronised by the wealthy. Mr. Welte has had a manufactory for these instruments for many years. The orchestrion in the exhibition is very expensive, but he makes them of all sizes and prices.*

Yet another gold medal was awarded to Michael Welte at the Provincial Industrial Exhibition in Karlsruhe in 1861.





*Illustration 17: The International Exhibition: The Orchestron, by M. Welte, of Vöhrenbach, in the Zollverein Department.*

## **2. M. Welte & Soehne Freiburg and M. Welte & Sons New York**

By about 1865 Welte was trading as “M. Welte & Soehne“, because all three sons had entered the firm, which was really flourishing. Since a large part of the trade was in exports, particularly to America and Russia, the eldest son, Emil, travelled to the USA in 1865 or 1866, in order to set up a branch establishment there, “M. Welte & Sons.” Showroom premises were rented in East 14th Street,

directly opposite the old Steinway Hall, and an office was established at 49 West 30th Street. Emil took an orchestrion with him, which was exhibited at the Atlantic Gardens in New York City. Later on a studio was opened on fashionable Fifth Avenue.

The factory location in Vöhrenbach was becoming unsuitable, both for business purposes and for the transport of what were for the most part very large instruments. Furthermore, even the Black Forest railway between Offenburg and Singen, planned since 1865, but not completed until 1873, would have been quite inconvenient for the company to use. The nearest stations would have been Furtwangen (20 km) or St Gallen (21 km), and the horses and waggons of the time would have to have negotiated some very steep gradients. It was clear that the firm would have to find new premises in a more convenient location.

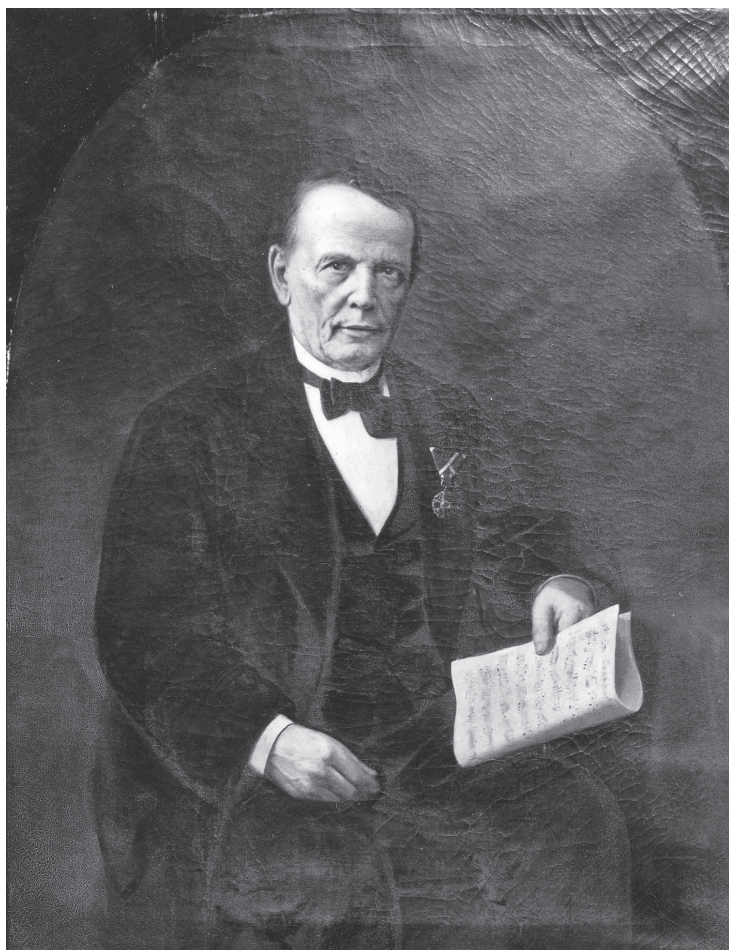
Whether the decision towards this decisive step for the future of the House of Welte was influenced by the sound commercial education of the second son, Berthold, must remain an open question. Berthold had completed a business apprenticeship with the firm of Mathiss & Leipheimer, drapers to the court in Karlsruhe, and in 1867 he represented the family company at the International Exhibition in Paris, at which it was awarded a silver medal.<sup>30</sup>

In 1871 the firm of Welte & Soehne acquired a large plot of land in Freiburg, in the newly developed commercial district of Stühlinger, immediately west of the main railway station in Lehen Strasse (from 1901 known as Lehener Strasse). Not all the land was immediately used for factory buildings, but only those parts which adjoined Lehener Strasse. However, the site provided room for further development, and later on the factory covered almost the whole of the block between Lehener Strasse, Klarastrasse, Egonstrasse and Wentzingerstrasse. The firm itself moved in 1872, and the majority of its workforce no doubt followed suit. In the same year Michael Welte was awarded the Knight's Cross 2nd Class of the Zähringer Löwenordens (Order of the Zähringen Lions) by Grand Duke Friedrich of Baden.

Meanwhile commercial activity continued apace. The firm displayed its instruments in Santiago de Chile, at the Exposición Internacional de Chile 1872, and was awarded a diploma. In 1876 it took part in the World Exhibition in Philadelphia<sup>31</sup> and obtained a Certificate of Award, while in 1877 Welte obtained a gold medal at the Art and Industry Exhibition in Karlsruhe.

In 1878 King Charles of Rumania ordered a Concert Orchestrion for his new summer residence, Castle Peles at Sinaia in the Carpathian mountains, and as a result M. Welte und Soehne were awarded the title of supplier by appointment to the royal household. This instrument is one of the very few which still remains at its original location.

Michael Welte, the founder of the firm, died in 1880, at the age of 72.



*Illustration 18: Portrait of Michael Welte. Alexander Dilger (1826-1906),  
Oil on canvas, Augustiner Museum Freiburg.*

His three sons took over the administration of the firm, and Berthold Welte became the director of the headquarters in Freiburg.

In 1883 the firm took its products to the Calcutta International Exhibition and was awarded a 1st Class Certificate of Merit, Gold Medal.

### **3. The Development of the Music Roll**

On 2nd January 1883, Emil Welte applied to patent in the USA an invention which finally placed M. Welte und Soehne at the very pinnacle of the industry, and which led the way to a technological breakthrough. By means of US patent 287,599, which was granted on 30th October 1883 and which carried

the unremarkable description of “Mechanical Musical Instrument”, Emil Welte held the key to the controlling of musical instruments, not by the very delicate pinned barrels, which were highly complicated to produce, but by perforated strips of paper and pneumatic power, in this case pressure, which became known as the “music roll”. The invention was patented in Germany on 28th October 1883, as Reichs Patent 26,733, under the title, “Pneumatic Mechanism for the Opening and Closing of Valves in Mechanical Musical Instruments”.

Certainly Emil Welte was not the first to have experimented with perforated rolls of paper, but his process stood out from those preceding it because of its eminent practicability. Rolls with perforated holes had been described by Seytre in France as early as 1842.<sup>32</sup> There were also firms which had used this principle in practice with varying degrees of success, as for example the American Munroe Organ Reed Company, whose organettes were operated in this way.

It is possible that Emil Welte was also influenced by the inventions of the German-American brothers, William (Wilhelm) and Henry (Heinrich) Schmoele, who in 1875 and 1879 patented processes for the control of musical instruments by perforated paper rolls.<sup>33</sup> In 1883 Heinrich Schmoele of Freiburg in Baden applied for a German patent, which was published as Reichs Patent 27,597, under the title, “The Production of Music Sheets with Holes Burnt Electrically and the Apparatus for Producing Them”. This process was apparently not put into practice, but it is interesting to note the co-operation between the Schmoele Brothers and the firm of Welte, whose influences and consequences are hardly known and have not yet been properly researched.<sup>34</sup>

The Schmoeles had been heavily involved with the electrical control of organs and held several patents in this regard, which had been used since 1864 by the French organbuilding industry.<sup>35,36,37</sup> In 1887, Welte advertised on its poster for the Upper Rhine Industrial Exhibition in Freiburg, that it was “Sole Concessionary for the Use of the Schmoele-Mols Patents in Europe, excluding France and North America”.<sup>38</sup> This co-operative relationship worked so strongly, despite the competing patents, that Heinrich Schmoele settled in Freiburg for a while.

However, it would appear that it took until 1887 before the perforated roll process was sufficiently well developed for it to be installed in Welte instruments, and on the basis of suction. In 1889 and 1890 Welte patented a more sophisticated process, using both suction and pressure.<sup>39</sup> From this point onwards all Welte instruments were fitted with the new technology, which was later applied to the reproducing pianos and Welte Philharmonic Organs as well.

#### **4. Welte und Soehne in Russia**

Emil Welte was very successful in the USA, but so far much less is known about



the “Russian Trade”. No evidence has come down to us from the firm itself, and so far the most exhaustive research in Russia has proved unsuccessful. Nevertheless, the records of inhabitants in the City Archive in Freiburg provide an initial clue, because the entry for Hortensia Welte, who is reported as having returned to Freiburg in 1894, carries the remark, “previous residence in Moscow”.<sup>11</sup>

Whatever the case, there is correspondence of M. Welte und Soehne around 1885, with the letterhead “Branches in New York, Moscow and Saratov”.

## 5. The Music Business

It would be as well to consider the development of the Welte firm from the business point of view. By 1880 M. Welte und Soehne had become market leaders from a technological point of view. Internationally the firm had the very highest reputation. Compared to its competitors, as for example Ludwig Hupfeld AG of Leipzig, Welte was a small firm, but its products were absolutely top class.<sup>40</sup>

From 1890 onwards, Welte introduced a completely new series of orchestrions, the so-called “Cottage and Concert Orchestrions”, now all supplied with the latest music roll mechanisms.<sup>41</sup> Owners of barrel-operated instruments were able to have them fitted with the new system at no cost. In this way an attempt was made to promote the sales of music rolls, which were not inexpensive. According to the type of orchestrion, rolls cost between 25 and 100 marks, a remarkable price. The firm now had the ability to produce new musical titles both quickly and inexpensively, which had not been possible for the former barrel orchestrions. The owners of these earlier instruments had only the music that was supplied with the orchestrion when new, and only in exceptional cases had new barrels been produced for individual instruments.

At a stroke the firm was not only a manufacturer of musical instruments, but also a publisher of recorded music, and so it had to keep track of the musical tastes of the day, which even at that time were relatively short-lived. The latest hits were in demand, not only the popular songs, but also overtures of the operettas in vogue in Berlin, Paris or New York. The production of these recordings, in the shape of music rolls, suddenly took on a far greater importance within the firm.

As electricity gradually came upon the scene, so the instruments that had formerly been powered almost exclusively by weights and clockwork, began to run on the new form of energy.<sup>42</sup>

## 6. Automatic Pianos

Apart from a few rather unsuccessful attempts to construct music roll mechanisms to control pianos, such instruments had in the past consisted mainly of the simple barrel-operated variety, which did not cater for high class

musical tastes.

In 1895 the American, Edwin S. Votey, constructed his first pneumatic piano-playing instrument. The Aeolian Company of New York, a very large, internationally active firm, which manufactured all kinds of musical instruments, took Votey on as Vice-President, and his “Pianola” piano-player was marketed by the Company in 1898 in the USA, and in 1899 in Europe.

One cannot credit Votey as the sole inventor of the player piano, but his particular place in history is secure, as the one who brought together a number of existing mechanisms and created the first truly musical roll-operated piano player. Votey’s instrument was an immediate success, and it sat in front of the keyboard of a normal piano, and played it by means of a set of felt-covered, wooden fingers. It was powered by two foot pedals rather like those of a harmonium, in contrast to the later fully automatic, reproducing pianos, which created their suction by means of an electric pump.

These instruments were very successful. All the piano manufacturers went out of their way to have their own version of the “Pianola”. The registered trade names of “Pianola” and “Phonola”, the latter being the rival piano player manufactured by the Ludwig Hupfeld Co in Leipzig, very quickly took on the air of a generic title for the instrument as a whole. There were certainly



*Illustration 19: Aeolian Company push-up in 1912.*

hundreds of manufacturers all around the world, producing instruments of varying quality, and a Pianola or Phonola became an essential part of the well-to-do middle class household.

It is therefore hardly surprising that one or two individuals at Welte should have had thoughts about developing a similar instrument, the more so as the sale of orchestrions was flagging. For the highly expensive instruments which Welte produced, there was only a limited market, which was in any case affected by the vagaries of fashion. Such developmental processes were not readily contemplated at Welte at this time, because the management of the firm was exceptionally conservative in outlook.

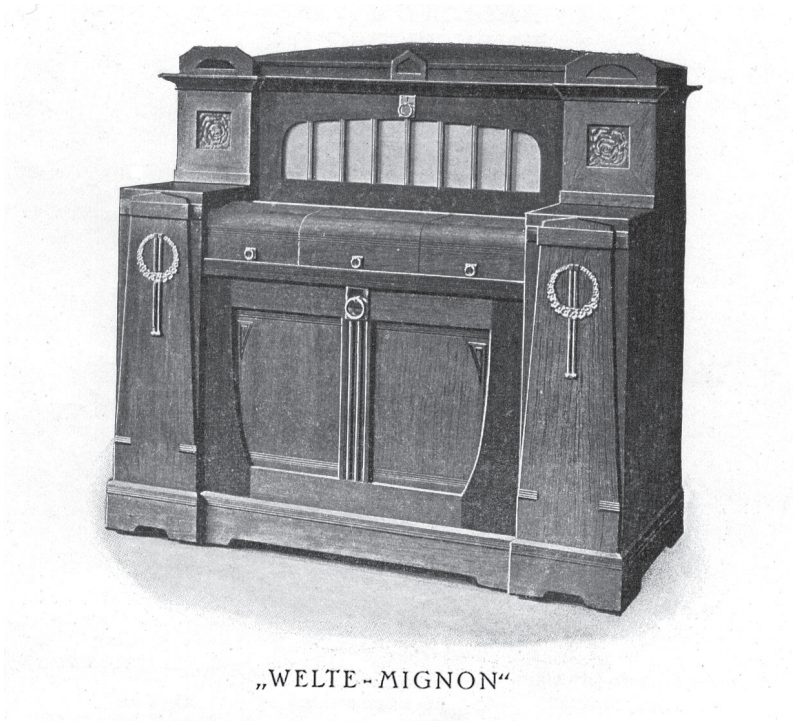
Thus it was that Edwin Welte and Karl Bockisch began around 1900 to develop the recording and playback technology for their future reproducing piano, the “Welte-Mignon”, whose playback methods were patented on 21st May 1904 under the title of “Mechanism Applied to Mechanical Keyboard Instruments for the Graduation of the Keystroke”. The recording mechanisms were kept secret.<sup>43</sup>

When the firm of Welte took a prototype of its reproducing piano to the Leipzig Fair in 1904, it was clearly very successful in stealing a march over its competitors. When the instrument became commercially available in the early part of 1905, there was nothing similar to be found. The first instruments to be built were the so-called “cabinet players”, full-sized upright pianos, but without a keyboard, and so not playable by hand. These were the only models to be built until 1907.

Welte did not consider itself well placed to market these instruments successfully on its own, so in 1904 it was decided to enter into a contract with the Leipzig industrialist, Hugo Popper (1859 - 1910), who took over the sole distribution for the German empire. Popper was already producing orchestrions and mechanical pianos in his own factory and was a distributor for the Polyphon music boxes. He was an exceptionally successful and skilful businessman, who was also very well educated and musically inclined.

Distribution in the USA, on the other hand, was reserved for Welte alone. More potential was seen in this enormous market than in the more restricted boundaries of Germany, which as a result of the contract was allowed to pass entirely from Welte’s direct control. One of Welte’s problems was the relatively remote location of Freiburg. How could the best pianists in the world be lured to the studio as recording artists? The prospect seemed far more likely to be successful in Leipzig, the musical capital of Germany.

In addition to the recording studio in Freiburg, a second one was set up in Leipzig at the headquarters of Popper and Co. Popper took upon himself the task of finding the first recording artists and was very successful in this regard. By the end of 1905 there were already 1056 recorded titles in the bag, from which customers would be able to choose, and most were recordings made in



*Illustration 20: Keyless Welte-Mignon.*

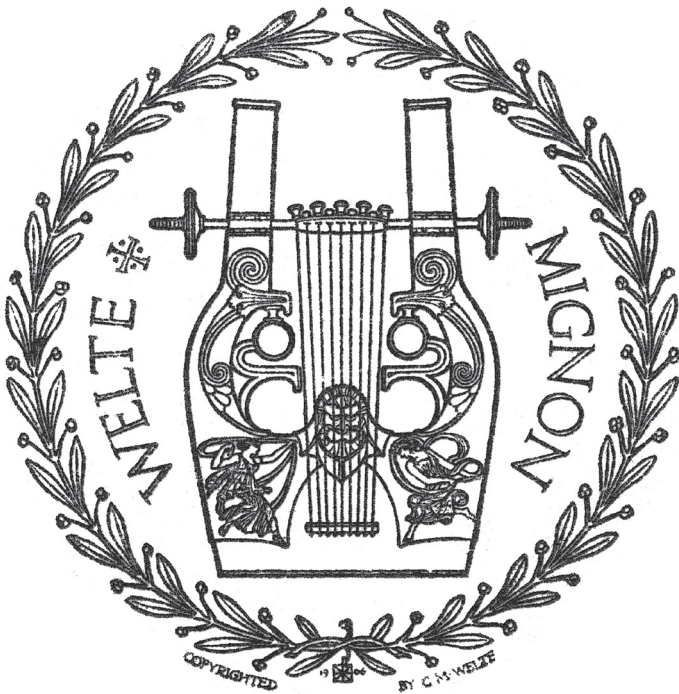


*Illustration 21: Recording session with Walter Giesecking in 1923.*



the Leipzig studio. This was a huge achievement.<sup>44</sup>

Amongst the pianists who recorded for Welte were such well-known names as Max Reger, Wanda Landowska, Camille Saint-Saëns, Yolanda Merö, José Vianna da Motta, Josef Hofmann, and indeed the oldest of them all, Carl Reinecke, born in 1824. Reinecke's recordings, seen through the mists of his rather conservative aesthetic style, allow us an all too rare look into the performance practices of the early 19th century. Especially interesting is the introduction to Robert Schumann's *Fantasiestück*, Op. 12, no. 3, "Warum" - (Why), because Reinecke had been a friend of Schumann's, and was highly

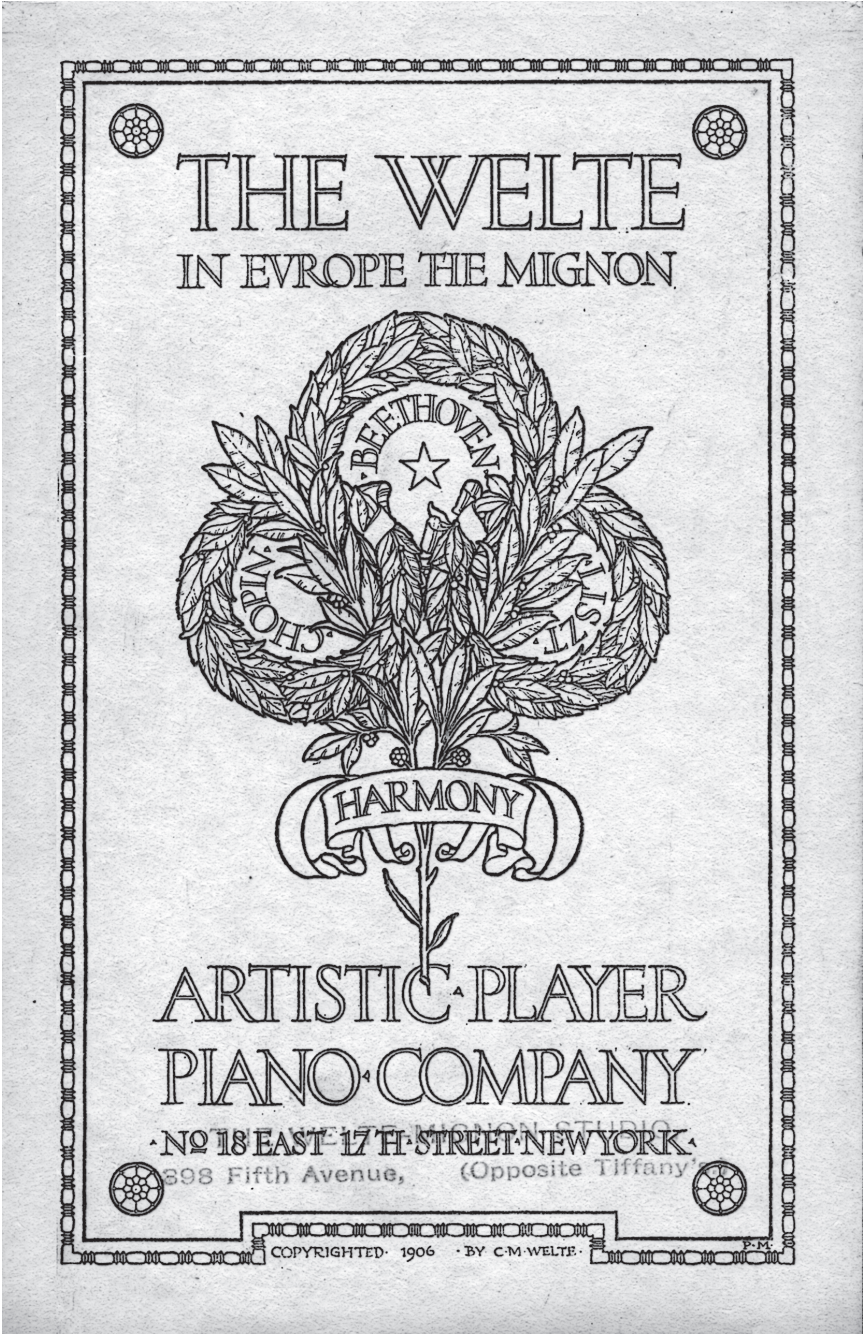


*Illustration 22: Carl M. Welte's design for the Welte-Mignon logo.*

thought of by the composer as an interpreter of his music.<sup>45</sup>

Trade in the USA seems to have turned out to be more difficult than at first thought. Even as early as the patent application for the principle of the reproducing piano there were problems, because the patent was contested in August 1904 by the Aeolian Company and not finally granted until November 1911.<sup>12</sup> To add to the troubles, Uncle Emil, the head of M. Welte & Sons in New York, didn't want to know about the new invention, and refused even to sell it, let alone to advertise it.

Thoroughly convinced of their new instrument, Edwin Welte and Karl



*Illustration 23: Front cover of a 1907 catalogue of the  
Welte Artistic Player Company.*

Bockisch founded their own firm, the Welte Artistic Player Company, with offices in New York. Their cousin, Carl M. Welte, was probably involved, and at any rate he designed the brochure for the new firm, and also the logo, which found its way, discreetly varied, on to all the publications and even on to the pianos themselves.

In this way the first Welte reproducing pianos went on sale in the USA in 1907. Sales started off well, and the same marketing ideas were used as had been tried and tested with the orchestrions. No compromise was made on quality, and so high prices could be obtained. To this end, the advertising concentrated on the richest echelons of society, aiming to turn the ownership of such an instrument into a status symbol. The postcards which Edwin Welte sent home to his wife at this time speak of specific journeys to visit the homes of the rich and to offer them special deals, the classic activities of the high-class salesman.

In Europe there were difficulties with Hugo Popper, who was not entirely happy with the high prices being charged for the pianos, and would have liked to sell instruments to a wider public, including restaurants and hotels. But Welte's insistence on exclusivity stood in the way. In the meantime there was new competition. In 1906 Ludwig Hupfeld in Leipzig brought the "DEA" reproducing piano on to the market, at significantly lower prices than the Welte instruments.

From 1907, Welte was offering its Mignon player built in to normal pianos with keyboards, especially Feurich, Blüthner, Steinway, Berdus and Ibach. This was an important turning point in the Company's attitude towards its business. It had been recognised that even rich people did not really want two separate instruments standing in their music room, the one for hand playing, and the other for the reproduction of music rolls.

Possibly as a result of pressure from Popper, Welte began to produce a less expensive version of its reproducing pianos from 1908 onwards, known as the "Pianon". The name "Welte" was never to be found on these instruments, presumably because the company was not entirely happy to be identified with them.

In 1909 came a final break with Hugo Popper, and the contract with him was dissolved. The recording studio was taken down and brought back to Freiburg. But by this time the Company was no longer reliant on the Leipzig studio. The good reputation of Welte's instruments was secure, and by now its patrons had an impressive total of almost 2000 music titles at their disposal, with many famous pianists from around the world to choose from. There was no longer any reason to tread carefully, as there had been in 1904 and 1905.

From 1907 Welte also built piano-orchestrions.<sup>46</sup> Competition flourished: in the USA the American Piano Company brought out its Ampico system around 1911, while the Aeolian Company introduced the Duo-Art in 1914.



In Germany, Ludwig Hupfeld produced an improved successor to his “DEA” reproducing piano in the shape of the “Triphonola”.

In 1911 the legal patent dispute with the Aeolian Company was settled. Production in the USA was so great that it was decided to build a factory there. This was a considerable enterprise, since space was also needed for the manufacture of the new Welte residence organs, for which America was the main market.

For these reasons, Heinrich Bockisch travelled to New York in October 1910, in order to pave the way for the construction of the new factory. In the small town of Poughkeepsie, some 139 kilometres north of New York, a plot of



*Illustration 24: The factory building site in Poughkeepsie. Upper level, from left to right: Edwin Welte, Heinrich Bockisch and Carl M. Welte.*

land had been acquired and during the course of 1912 the new building was finished.

In order to finance this extensive factory development it was necessary to raise capital. Even Emil Welte was no longer disputing the success of the reproducing pianos, and so the financial muscle of M. Welte & Sons was transferred to a new company, M. Welte & Sons, Inc.

A recording studio was set up in the New York showrooms of the company, possibly with the instruments and equipment that had formerly been in Leipzig. In the intervening years the equipment had been taken on recording trips to Russia, Paris and London, so that the most important artists could make their



1312

Prospectus  
M. WELTE & SONS, Inc.

(Incorporated under the Laws of the State of New York)

Offered for Subscription

\$250,000

Seven Per Cent. Cumulative Preferred Stock

Preferred as to Dividends and as to Assets in Liquidation

CAPITALIZATION:

Preferred Stock .....	\$500,000
Common Stock .....	500,000

The Company has no bonded indebtedness

The M. Welte & Sons, Inc., has been organized to take over the New York business of M. Welte & Sons of Freiburg, Baden, Germany, manufacturers of organs, orchestrions, and Welte-Mignon Pianos, and the assets of the Welte Artistic Player Piano Company, Sales Agency of the Welte-Mignon piano.

The firm of Welte & Sons, commencing eighty years ago in a small workshop in the Black Forest and now the leading house of its class in the world, has found it advisable, in order to meet the increased demand in America for its products, to merge its orchestrion, organ and piano player business in one corporation, and in order to secure additional capital to meet the growing demands of its profitable business, it now offers for sale at par \$250,000 of its Seven Per Cent. Cumulative Preferred Stock, with a bonus of one share of the Common for every two shares of the Preferred.

The partners in the business of M. Welte & Sons in New York, who own practically all the stock of the Welte Artistic Player Piano Co., have themselves subscribed for \$250,000 of the Preferred Stock and \$500,000 Common.

The assets of the two corporations as merged are indicated in the statement hereto appended, which has been prepared after due examination and audit by The N. Y. Audit Co.

With the \$250,000 cash capital, which it is expected will be obtained by the sale of the \$250,000 Preferred, it is intended to purchase a suitable factory, where all the parts used in the instruments will be manufactured in this country. The profits on sales will thus be largely increased by eliminating the expenses of customs duties and transportation, which have hitherto amounted to 60% of the merchandise imported from Germany.

Illustration 25: Page 2 of the prospectus for the new company.

recordings on the spot. These were the occasions that brought such important musical documents as the recordings by Glazounov, Scriabin, Goldenweiser, Debussy and Granados into the catalogue.

In 1912 the “Welte Philharmonic Organ” was introduced for the first time. This was intended to perform on the same level as the reproducing piano. It functioned by means of perforated paper rolls, from which the stops and the swell pedals could also be controlled. As had already happened in the realm of the piano, the most famous European organists were invited to Freiburg, where they played their chosen selections for the new organ.

The tried and tested Welte strategy of turning the instrument into a status symbol once again proved itself. The high prices and production costs were



*Illustration 26: The Poughkeepsie factory building around 1913.*

always justified. The instruments varied in size and design according to the customer’s wishes - essentially anything was possible.

On 21 September 1912 the main business in Freiburg was re-structured. A limited company was founded, with an initial capital of 1,300,000 marks.<sup>47</sup> The directors were Berthold Welte, Edwin Welte and Karl Bockisch, and Andreas Weisser was given authority as a proxy.

In 1913 Welte introduced Welte grand pianos in Germany, which were initially only available in pianos from Julius Feurich in Leipzig, and Steinway & Sons in Hamburg.

In August 1914 the First World War broke out. Edwin Welte, as already



*Illustration 27: Berthold and Edwin Welte on the upper deck of the SS Kronprinzessin Cecilie (Crown Princess Cecilie), on a voyage to the USA in October 1912 (Berthold 2nd from left, Edwin 2nd from right).*

mentioned, was called up and served in the armed forces for the duration of the war, while Karl Bockisch continued to run the business. Nothing is known of the firm's business activities during this time. Presumably the turnover was nothing very special. Communication with the enormously important American subsidiary, which in the meantime had been producing its own recordings, broke down completely. The shipments of master rolls, and the corresponding despatch of current recordings, also came to an end. Until 1915 the latest hits from America continued to be issued in Germany, but after that time only one or two individual American roll issues made their appearance in the roll catalogues in Holland. Recording activity in Germany was completely shelved.

In 1918 Berthold Welte, head of the firm in Freiburg, and alderman and commercial councillor of the city of Freiburg, passed away. The direction of the firm was taken over by Edwin Welte and Karl Bockisch.

After the War was over, the loss of the American branch and its patents were a bitter pill to swallow. Edwin Welte and Karl Bockisch had hoped that the American shareholders, who were after all uncle, cousin and brother-in-law, might save something by stepping into the breach when the auction took place in 1919 to sell off Enemy Alien Property. The European branch of the family was after all not allowed to bid, and presumably did not have the means to do

so either.

In Europe, impoverished by the War, it was not easy to sell luxury instruments of the sort that Welte manufactured. Nevertheless the financial situation in the postwar years was not all bad. Inflation affected the firm in a very gradual manner. After the War accounts were finally paid by wholesalers and distributors from the former enemy countries. For example, Steinway & Sons transferred the accumulated debts in War Bonds, so that in a curious way it was possible to exchange the now worthless German War Loan for its extremely valuable British counterpart. These exchanges of money gave Welte the opportunity to substantially expand the factory site from 1923 onwards.

Before the War started, the newly developed cinemas in America and Britain were being equipped with special musical instruments to accompany silent films, the so-called cinema organs. In Germany this development was delayed by the War. Cinema organs included, as well as their ranks of pipes and ancillary equipment, countless mechanical musical devices which helped to colour the early silent films: glockenspiels, various drums, xylophones, castanets, telephone bells, sirens, thunder, railway noises and much more besides. It was essentially no problem for Welte to manufacture such instruments, and so the firm took its place in what appeared to be a very promising market and set about the construction of cinema organs. A widespread advertising campaign was undertaken amongst cinema owners, who were offered the most favourable terms, in order that as many customers as possible should be attracted. Soon the Company had made a good name for itself in this area.

However, technological development meant that the cinema organ in Germany was very short-lived. In 1922 the first experimental talkies came out, and by about 1928 the recording of sound had been improved to such a degree that it spelt the end of the silent cinema.<sup>48</sup> The effects on the firm of Welte were disastrous. Cinema organs already ordered were cancelled, and several cinema owners put their organs up for sale on the secondhand market. A few Welte cinema organs have survived in museums, such as the Technical Museum in Mannheim, the Film Museums in Düsseldorf and Potsdam, as well as the Musical Instrument Museum of the University of Leipzig.

In 1930 Welte received what was presumably its last significant order for such an instrument. The North German Radio in Hamburg, known as "NORAG", a forerunner of the present-day NDR, ordered an organ for broadcasting. This radio organ stands to this day, still in playable condition, in the oldest functioning broadcasting studio in the world, at 132 Chaussee Rothenbaum in Hamburg.<sup>49</sup>

The break in manufacture of the reproducing piano also left some unfinished business after the First War. Finally the firm got in line with the generally accepted international standard for piano rolls. In 1904, when the Welte-Mignon was first produced, the standard had not yet been introduced.





*Illustration 28: NDR Welte Broadcasting Organ. Gerhard Gregor playing the organ in the NORAG radio concert hall in 1931. Photo courtesy NDR press and information bureau, Hamburg.*

Each firm had its own standard as far as the size of roll was concerned, as well as the dimensions, number and disposition of the individual perforations. There was considerable chaos in the industry, because even as early as 1906 there were hundreds of manufacturers, especially in the USA, who specialised in the production of rolls for other musical instrument companies. In late 1908 a conference was held in Buffalo, New York State, at which certain standards for the dimensions of rolls were agreed.<sup>50</sup> Welte was unable to join in, because, as a pioneer in the industry, it already had its own special rolls, and perhaps it thought the process unnecessary.

In 1922, Welte finally brought out a new production model of instruments with 88 playing notes, converted its existing recordings to the new system, and sold both types concurrently. In 1926 the firm still had 203 workers.<sup>51</sup>

From about 1919 the programme of recording for the Mignon, which had lapsed during the War, was begun anew. Popular music was once again produced, and as was the case before the War, it appeared in monthly roll lists, as supplements to the main roll catalogues. As soon as the opportunity arose, classical music recordings were re-commenced, in order to complete the already sizeable repertoire, and to include younger artists in the Company's catalogue. So, for example, in due course there were recordings from Walter

Giesecking and Edwin Fischer, Alfred Hoehn and Nikolai Medtner, to mention only a few.

In 1926 the medium of the player piano was discovered by German composers. Paul Hindemith, Ernst Toch and the Dresden composer, Gerhart Münch, wrote special pieces for the Welte-Mignon on the occasion of the Chamber Music Festival at Donaueschingen on 25th July 1926. These pieces were not playable by hand. The possibilities of writing music for piano rolls which was almost as complicated as they wished, gave the composers new freedoms of musical expression.<sup>52</sup>

Welte hoped to exploit this new trend, and commissioned further compositions for player piano in 1927. The music rolls of Nikolai Lopatnikoff and Hans Haass which were published in that year are certainly very interesting from a musical point of view, but they were not in the least commercially successful. George Antheil also brought the first part of his *Ballet Mécanique* to the German Chamber Music Festival at Baden-Baden in 1927, which was performed by a Welte-Mignon on 16 July of that year. The entire range of these specially composed rolls was until very recently a great rarity, although now there are new copies which may be obtained.

In January 1927, the young Vladimir Horowitz travelled directly to Freiburg after his spectacular debut in Hamburg, and in 1928 there were more recordings for the Mignon, this time by Rudolf Serkin and Lubka Kolessa. After these final recording sessions, only light music was produced.

An attempt was made, as before the War, to develop simpler instruments which would appeal to a larger public, and which once more carried the name "Pianon". These came in all shapes and sizes, including coin-operated models. A separate series of rolls was produced for this range of instruments. Rolls were produced with four tunes, which could be individually played on the Pianon, giving an effect similar to a musical box.

For such instruments it was necessary to make less expensive pianos, which the firm tried to obtain as cheaply as possible. Since Karl Bockisch was romantically involved at this time with a lady from the Tormin family, it was decided to start on the production of a piano with that name. The Tormin family had hitherto been the proprietors of an automobile workshop in Freiburg. A company was set up in 1924, chiefly with capital from Welte, under the name of the Carl Tormin Company, and set about the production of some rather basic models of piano. It would appear that some of the Bonds exchanged after the War were put towards the establishment of an in-house piano manufacturing facility.<sup>53</sup>

But the undertaking was not to prove a happy one. In October 1930 the Tormin Company went into voluntary liquidation, and the property at 25-29 Heidenhoff Strasse was forfeited. Quite a lot of money was lost through the whole affair, and as a result a number of parcels of land and houses that had

only recently been acquired had to be sold again. In September 1932 Karl Bockisch married Ilse Tormin, born as recently as 1901.

The same technological innovations that had brought down the cinema organ business by 1930 at the latest, also had a significant effect on the sales of reproducing pianos. By 1926 the radio, once the province only of enthusiasts, had become a mass medium. The former Radionists, who scanned the ether with headphones, crystal sets and long aerials, were replaced by modern radios, which with loudspeakers and valve amplifiers, could fill a whole living room with sound.

The horn gramophone was replaced by the electric record player, which also had its loudspeaker and amplifier, and the new “electric” recordings, made with carbon microphones, were a huge improvement on the old acoustic records. Suddenly the reproduction of music had become unbelievably simple, and compared to the dinosaur-like reproducing pianos and orchestrions, unbelievably cheap as well.

Around the world the player piano industry collapsed. Rather like the onset of the 1970s, when the introduction of the quartz watch caused the whole Black Forest clock industry to collapse and thousands of workers to lose their jobs, the mechanical music firms finally closed their doors. Only a very few survived.

Attempts by Welte to remain in business with record players and dictating machines came to nothing.

In 1930 and 1931 Edwin Welte needed money to set up his Electro-Acoustic Musical Instrument Company in Basel, and for the research and development of his light-tone-organ, and he either took it out of the Welte firm, or else the cash was used as security for him. The firm of M. Welte und Soehne was now in considerable financial difficulty. On 11th April 1931, the county court in Freiburg opened insolvency proceedings with a view to declaring the firm bankrupt. As a result a number of further properties and houses were sold in order to refill the empty coffers. In May 1931 the insolvency process was cancelled. In August 1932 Edwin Welte resigned as director, and Karl Bockisch took his place as the new head of the firm.

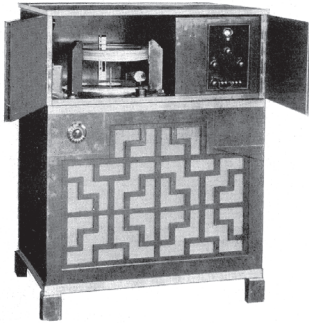
As part of the insolvency procedure, an industrial valuer had examined the assets and liabilities of the firm, and also the inventory of stock, machinery and other goods. The conclusions were not good. In the absence of any demand, the considerable stock of instruments and music rolls was practically worthless. In addition there were heavy mortgages and the associated interest charges as a result of the Tormin fiasco. It had come to the point where the whole family, used to dipping in to the coffers when necessary, was attempting to use the firm in the same old way. The examiner gave a very unfavourable forecast.

Karl Bockisch applied the emergency brake. The workforce was reduced to a bare minimum, and parts of the factory property and buildings were rented

# WELTE AUTOMAPHON

D. R. P. ANGEM.

DER IDEALE TONSCHÖNE  
SPRECHMASCHINEN-AUTOMAT  
für Hotels, Restaurants, Cafés, Tanzdielen  
etc.



Automaphon mit elektr. Musikübertragung und Radio  
Modell N

## Automaphon

spielt selbsttätig ein ganzes  
Programm ohne jede Be-  
dienung

\*  
wechselt selbständig die  
Platten, daher größte  
Schonung derselben

\*  
Einschaltung ausschließlich  
durch Fernkontakt oder  
Fernmünzeinwurf

\*  
Wählen jeder beliebigen  
Platte des Programms

\*  
25 und 30 cm.-Platten  
jeder Marke spielbar

\*  
Naturwahre Wiedergabe  
von Musik und Sprache

M. WELTE & SÖHNE  
FREIBURG I. B.

GEGR. 1832

*Illustration 29: Welte Automatophon, probably about 1930.*

out to other firms. He left the larger family to look after its own debts, partly taken out without any consultation in the name of the firm.<sup>54</sup>

The houses which still belonged to the firm were filled with lodgers to the fullest extent of their capacity. After all that he looked for contracts in organbuilding, and with some success. Until the outbreak of the Second World War in 1939 he managed after a fashion to keep the firm afloat with the construction of church and residence organs. In 1937 the limited company had been dissolved and formed into a partnership, and the firm was once again called "M. Welte und Soehne".

When the factory was bombed on 27th November 1944 all further activity ceased. Karl Bockisch jr died in hospital in February 1945 as a result of a war injury. Karl Bockisch, his father, now 70 years old, managed to undertake a few repair jobs, and the firm kept going in a modest way at 21 Immental Strasse.





## WELTE

### ELEKTRO-PLATTENTELLER

**I. KOFFERAPPARATE**  
in erstklassiger Ausführung und verschiedenster  
Ausstattung und Farbe.

**Modell A** Kleiner Elektro-Koffer (nurelektrisch).  
Größe: 29,5 cm breit, 38,5 cm tief, 10 cm hoch  
Gewicht: ca. 5,2 kg

**Modell A<sub>1</sub>** Großer Elektro-Koffer (nurelektrisch).  
Größe: 29,5 cm breit, 38 cm tief, 13,5 cm hoch  
Gewicht: ca. 5,5 kg

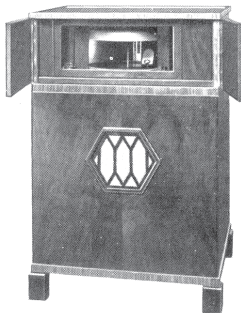
**Modell B** Kombiniertes Koffer (elektrisch und  
mit Federwerk ausgestattet).  
Größe: 29,5 cm breit, 38 cm tief, 13,5 cm hoch  
Gewicht: ca. 7,5 kg

Voller natürlicher Raumton durch  
Spezial-Metalltonführung.

*Illustration 30: Welte Electric Record Player, around 1930.*

## WELTEPHON

### 12 Platten-Automat



**Modell COR**

**M. WELTE & Söhne**  
G. m. b. H. / Freiburg i. Br.

*Illustration 31: 12 disc Weltephon, around 1930.*

In 1949 it employed a new apprentice and three workers. In 1950 there were six workers, in 1951 three again, and in 1952 only one. Karl Bockisch died in Freiburg on 17th April 1952 at the age of 76. In September 1952 the firm of M. Welte und Soehne was signed out of the local trade register, and in February 1954 it was removed from the register of companies.

Today a memorial plaque on the house at 11 Lehener Strasse commemorates the once world famous firm.<sup>55</sup>



*Illustration 32: Ruins of the factory buildings before the final demolition, about 1954.*

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#### NOTES

- 1 Rudolf Dietz, Heinrich Lang, Joseph Frick: Report of the Commission on the Black Forest Industrial Exhibition at Villingen in late 1858, Karlsruhe 1858.
- 2 Michael Welte (1807-1880). Feature article in the *Freiburger Zeitung*, 1895, Nos 50 and 51.
- 3 Data from the Archdiocesan Archive: Born on 26 February 1788 in Vöhrenbach, induction as priest on 28 March 1812 (probably in Meersburg). Subsequently vicar of Kirchen (probably the twin villages of Kirchen and Hausen), from 1818 vicar of Mauenheim. He died on 26 February 1827, probably in Mauenheim. My thanks are due to Dr Christoph Schmieder, Director of the Archiepiscopal Archive in Freiburg, for making this information available.
- 4 In all the accounts published by the firm of Welte of which I am aware, the apprentice master is given as Johann Blessing, and initially I continued the error. Duffner specifies Martin Blessing on p. 38, and Jakob on p. 46 (Hermann Duffner: The clock and musical instrument manufacturer Blessing, Waldkirch 1968). The indentures in the Welte archive quite clearly indicate Jakob Blessing.
- 5 Other outstanding masters of the craft learned their trade in his workshop. As a young man,

- Jakob Blessing was already a well-known musical clock manufacturer, and his father, Carl (1769-1820) was one of the pioneers of the Black Forest musical instrument industry.
- 6 Obituary of Emil Welte, in: *Zeitschrift für Instrumentenbau* (Instrument Manufacturing Journal), Vol. 44, no. 10, 1 Jan 1924, p. 276.
  - 7 On the census record of the US Census Bureau, both alternatives are given, in one case with the annotation, "at the age of 24 years." My thanks to Mark Reinhart for kindly making available this and other documents which were not otherwise accessible.
  - 8 Freiburg Directories 1874-1876.
  - 9 The Register Office in Freiburg could not confirm the marriage from the church register books.
  - 10 Unfortunately, the index of inhabitants in the Freiburg City Archive is fragmentary, owing to war damage, and therefore details of the removal from Freiburg cannot be traced.
  - 11 Registration card in the Freiburg City Archive
  - 12 See the article by Mark Reinhart, "Welte-Mignon in den USA," in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
  - 13 See the article by Peter Donhauser, "Edwin Weltes Lichtton-Organ," in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
  - 14 Second daughter of her brother-in-law, Karl Bockisch.
  - 15 Entry in the Freiburg Directory of 1935 for 19, Holbeinstrasse: New building, Gertrud Wolf and Betty Welte.
  - 16 See the article by Richard Simonton, "Die abenteuerliche Suche nach den "Schatzen" des Herrn Welte," in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
  - 17 See note 12.
  - 18 Inheritance records in the Freiburg City Archive, shelf mark RP and H 17816.
  - 19 The chronicle of this migration has been preserved in the family's private archive.
  - 20 The date when the name "Orchestrion" was first used to denote a musical instrument that imitated an orchestra is not clear. At any rate, it is certain that Welte's instruments were not the first to be given this description. The inventions of the Dresden family of Kaufmann, which was active in this area a whole generation earlier, such as the Chordaulodion, the Balloneon and the Symphonion, would certainly qualify. Also the mechanical musical instrument with 164 pipes, built in 1831 by Martin Blessing, and for which Konradin Kreutzer arranged the music, could have been the first to have had the name applied to it. The insistent way in which the term is appropriated in Welte's commercial literature stems on the one hand from a lack of knowledge of the development of this type of instrument, and on the other from the understandable yet uncontradicted paeans of praise heaped upon the firm and its founder. Patriotism in the then state of Baden should not be underestimated either.
  - 21 *Karlsruher Zeitung*, no. 70, 25 March 1849.
  - 22 This is probably the Concertstück in F minor for Piano and Orchestra, Op. 79, published in 1821.
  - 23 *Jubel Overture*, Op. 59.
  - 24 First performance dates of these operas are as follows:  
     "Norma" by Vincenzo Bellini (1831);  
     "Zampa, or the Marble Bride" by Louis Joseph Ferdinand Hérold (1831);  
     "Fra Diavolo" by Daniel François Auber (1830);  
     "Giuglielmo Tell" by Gioacchino Rossini (1829).
  - 25 This autograph book was presented to Michael Welte in 1849 by the Grand Duchess Sophie of Baden, according to the firm's publication, "The Welte Philharmonic Organ," c.1924. It is known that the book existed until it was burnt in a bombing raid in 1944. It was severely damaged and probably retrieved incomplete from the ruins of the factory by someone in the firm, and is owned today by a private collector in America. Werner Baus in Helsa-Eschentrueth published a data CD in 2004, entitled "100 Years of the Welte-Mignon", which includes, amongst other items, scans of surviving pages of the Welte autograph book, which evidently continued in use until 1928.
  - 26 Catalogue of the Baden Black Forest Industrial Exhibition, held at Villingen from 22 August to

- 26 September 1858. Villingen, 1858.
- 27 The International Exhibition: The Orchestration by M. Welte of Vöhrenbach, in the Zollverein Department, in: *The Illustrated London News*, no. 1106, 27 September 1862, p. 321 (picture), p. 323 (text).
- 28 First performance dates of these operas are as follows:  
"Der Freischütz" by Carl Maria von Weber (1821);  
"Oberon" by Carl Maria von Weber (1826);  
"Giuglielmo Tell" by Gioacchino Rossini (1829);  
"Martha" by Friedrich von Flotow (1847).
- 29 Probably the Overture to "A Midsummer Night's Dream" (1826), Op. 61, by Felix Mendelssohn Bartholdy.
- 30 I am grateful to the City Archive of Karlsruhe for identifying the firm where Berthold Welte was apprenticed.
- 31 Philadelphia, Pennsylvania - Centennial Exposition. International Exhibition of Arts, Manufactures and Products of the Soil and Mine.
- 32 French Patent 8,691 of 1842.
- 33 US Patent 170,402 of 23 November 1875: Improvement in Electric Music Sheets. US Patent 189,391 of 10 April 1877: Improvement in Electro-Pneumatic Music Playing Apparatus.
- 34 Esteban Elizondo Iriarte: *La Organería romántica en el País Vasco y Navarra (1856-1940)*, Barcelona 2002, pp. 329 and 342. Tesis Doctoral, Universitat de Barcelona.
- 35 Organs using the "Schmoele-Mols System" were already being constructed in France from the 1860s onwards, see note 36.
- 36 Albert Peschard: *Les premières applications de l'électricité aux grandes orgues*, Paris 1890.
- 37 The organ builder, Heinrich Koulen, who had studied with, amongst others, Joseph Merklin in Paris, built organs using the "Schmoele-Mols System" from 1871 onwards. In: <http://perso.wanadoo.fr/eisenberg/repalph3.htm>. His son, Max Koulen, worked as a master organ builder and instructor for Welte & Söhne.
- 38 German Reich Patent 34,359 of 12 May 1885: Heinrich Schmoele in Freiburg (Baden), Wilhelm Ford Schmoele and Alexis Mols in Antwerp (Belgium), Electro-pneumatic Orchestration.
- 39 German Reich Patent 48,741 of 22 March 1889: M. Welte & Söhne, Pneumatic mechanism for musical instruments, which may be played by means of perforated music rolls. Supplement to Patent 48,741: German Reich Patent 58,252 (1889) of 7 December 1890: Modification of the suction and pressure techniques described in Patent 48,741.
- 40 See the article by Gerhard Dangel, "Statistischer Überblick über die Fabrikation mechanischer Musikinstrumente im Deutschen Reich um 1888" in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
- 41 See the article by Durward Center, "Welte Orchestrien - Jahre der Fülle" in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
- 42 When necessary instruments could be supplied with a "water motor," an early form of turbine. In this case, the energy needed for powering the instruments was supplied by water pressure.
- 43 See the articles by Mark Reinhart, "Welte-Mignon in den USA," and by Ludwig Peetz, "Das Welte-Mignon-T100-Aufnahmeverfahren," in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
- 44 A detailed survey of the production of rolls can be found in the book: Gerhard Dangel and Hans-W. Schmitz, "Welte-Mignon-Klavierrollen," Freiburg, 2006
- 45 Hermann Gottschewski: "Die Interpretation als Kunstwerk - musikalische Zeitgestaltung und ihre Analyse am Beispiel von Welte-Mignon-Klavieraufnahmen aus dem Jahre 1905," Laaber 1996.
- 46 Herbert Jüttemann: "Orchestrien aus dem Schwarzwald - Instrumente, Firmen und Fertigungsprogramme," Bergkirchen 2004, p. 189.
- 47 Excerpt from the trade register of the Freiburg county court.
- 48 Karl Heinz Dettke: "Kinoorgeln und Kinomusik in Deutschland," Stuttgart 1995.
- 49 Online at: [www.weltefreunde.de](http://www.weltefreunde.de).



- 50 At a convention in Buffalo in 1908, the American producers of music rolls agreed on a "Standard Scale," which became the international standard for roll production. They agreed that in the future, only two types of roll would be produced, with 65 and 88 notes respectively, but with the same width of  $11 \frac{9}{32}$  inches, plus or minus  $\frac{1}{32}$  of an inch, equivalent to roughly 285 mm.

By contrast, the rolls for the Welte-Mignon were wider, at  $12 \frac{7}{8}$  inches (328 mm), and therefore not compatible with any other system. Since the paper for these rolls was nearly always red, this system is known as the Welte Red, or T-100, because it had 100 note tracks. When the new Welte system was introduced in 1922, which was compatible with the international standard, the paper for these rolls was nearly always green, and so this system is known as the Welte Green, or T-98, on account of its 98 note tracks.

- 51 From "Industry in Baden in the year 1926 from official statistics," Karlsruhe, Braun, 1926, p. 143: 1926 M. Welte & Söhne GmbH, factory for manufacturing pneumatic musical instruments, 203 workers.
- 52 In this connection, see the article by Günther Metz, "Hindemith und die mechanische Musik," in "Aus Freiburg in die Welt - 100 Jahre Welte-Mignon", Freiburg, Augustiner Museum, 2005.
- 53 Dates for the Tormin AG company:  
Trade register of the Freiburg county court, R 03, 1924: C. Tormin AG, Upright and grand piano manufacturer in Freiburg. Otto Tormin registered as legal owner 02, 1924.  
Industry in Baden (see note 51), p. 144: 1926 more than 20 workers, export to Italy and Lithuania, shareholding from Welte.  
File from the Chambers of Industry and Commerce: In liquidation 17.10.1930, bankruptcy opened 30.10.1930, discharged 1933.
- 54 The sources for the inhabitants of property and land are the Freiburg address books (directories), which listed the owners of freehold land well into the 1980s.
- 55 File card from the Freiburg Chamber of Commerce.

## The Welte-Mignon reproducing piano and its place in the history of music

Dr Werner König

Piano-players first began to be built seriously in America in the last decade of the nineteenth century. The Aeolian Company, founded in 1887 by W. B. Tremaine, soon occupied a leading position in the field, introducing its "Aeriol" instrument in 1895. This and other early makes were in fact playing-devices that one set up at the keyboard of a piano that depressed the keys with leather-covered fingers. The role of the "player" was reduced to operating a treadle to produce a partial vacuum, the pneumatic mechanism of the playing-device tracking a strip of perforated paper to sound the notes. The note perforations were transferred to the paper with metronomic precision - and produced a correspondingly stiff performance. A step forward was the introduction of levers enabling the "player" to modify the tempo and (within limits) also the touch. Finally, around 1900, the playing-device was built into the instrument itself. The Aeolian company introduced the term "Pianola" for such pianos, and the word soon passed into the language as a synonym for player-piano.

In Germany the firm of Hupfield of Leipzig started working on player-pianos in 1886. Their "Phonola", which they brought out in 1902, was more or less equivalent to the improved American "Pianola" but was still built as a separate playing-device. Around the same time Edwin Welte, owner of Welte & Sons' orchestrion works in Freiburg-im-Breisgau, working in collaboration with Karl Bockisch, hit upon an invention of decisive importance for the development of the player-piano: by 21 May 1904 they were able to patent their "appliance for modulating the touch of mechanical keyboard instruments". The patent claim described how this appliance was capable of reproducing by pneumatic means the dynamic levels of *piano*, *mezzoforte*, and *forte* as well as effecting a *crescendo* or *diminuendo* between those levels. The pneumatic mechanism was controlled by a strip of perforated paper carrying holes not only for the notes but also for how hard they were to be struck. Welte built this device into upright and grand pianos and in the early years also manufactured it as a separate playing-device. In both cases the suction pump was operated by an electric motor with rheostat commutator. With the aid of a resistance this was controlled in such a way that it went faster when a lot of wind was needed (for powerful *crescendo* and *fortissimo* passages) and slowed down when less wind was needed (i.e. below the *forte* level). Welte & Sons called their instrument a "reproducing-piano", their aim being to "reproduce with all its distinguished characteristics" the playing of an actual performer. In their publicity material they wrote:

*“All previous attempts at reproducing piano-playing automatically have suffered from the fundamental defect that the music-rolls used were marked mechanically bar by bar with the aid of a metronome. Each note was given its correct, stereotyped value. Deviations from this norm were extremely rare, and when they were attempted the effect usually sounded forced and over-deliberate; the notes lacked natural fluency. Furthermore the devices themselves were most unsatisfactory; often there was no modulating appliance at all, and when there was one it was extremely primitive.*

*“In this situation we set ourselves the task of making a radical break with tradition and seeking new ways of producing an ‘artistic performance’. We took the view that a mechanically-noted piece of music, however carefully prepared, will invariably and inevitably sound mechanical. It will lack freedom of movement, natural fluency, the thrill of interpretation, those changes of tempo that, though often almost imperceptible, are so delightfully effective; in short, it will lack the very things that make a performance ‘artistic’, that give it ‘personality’. The only way we could see of radically removing these defects was to record the actual playing of the performer himself and reproduce it by means of a suitable device. Phonograph recording and reproduction was ruled out from the start because, as is well known, the phonograph reproduces the sound of the piano very poorly and with much distortion. We had no alternative but to use another piano as reproducing-instrument in order to preserve that natural piano sound for which there is no substitute. It followed that this piano, or rather the hammers of this piano, must be made to strike in the same way as the performer had made them strike. Our task was thus a two-fold one: to construct a recording device that would record and preserve a pianist’s performance with all its nuances of touch, and to construct a second, reproducing device that would transfer that touch as recorded to the reproducing piano. The original recording device invented by ourselves has for the first time made it possible to record the playing of our most celebrated masters of the keyboard and thus hand down to posterity through the medium of the ingeniously-constructed ‘Welte-Mignon’ reproducing-device something that would otherwise have been lost to it.”*

The “reproducing-piano” had achieved the ultimate goal of the mechanical musical instrument, namely to replace the human player. It filled the same function as Edison’s phonograph did for speech and to a certain extent for music as well, and it continued to do so until the gramophone record was developed to the point where it could faithfully reproduce even the sound of the piano. This development meant the end of the player-piano, and in the mid-nineteen-thirties the firm was forced to switch to organ-building. The factory destroyed in the war was not rebuilt.

The historical importance of the “Welte-Mignon” instrument can be considered under three headings: a) it recorded the playing of nearly all the eminent pianists active around the turn of the twentieth century; b) important composers used it as a means of reproducing their works; and c) like earlier

mechanical musical instruments it was regarded as an instrument in its own right for which composers wrote a number of works.

As far as I am aware, no attempt has yet been made to evaluate the music rolls that have been handed down to us. There is such a wealth of these (Welte & Sons alone made some 6,000 recordings, though of course many of these were of dance music and other light music) that we can only touch on one or two aspects here. The first question we must ask ourselves, however, is how authentic are these documents? To answer this we must say something about the way in which these recordings were made and the way in which they were transferred to the paper rolls.

There was no problem about registering the pitch and length of the notes struck. Unger had developed the principle of the melograph as early as the eighteenth century. One of the many improvements that were made on this device with the advent of electric power was described in a patent application as follows:

*“Until now the notes on note strips for mechanical and pneumatic musical instruments such as pianinos were marked from a music book. This was an extremely lengthy business. The object of the present patent application is a device for recording notes by means of electro-magnetic contacts, the invention being based on a well-known property of electric current, namely that by flowing through an insulated wire wound round a piece of iron it turns that piece of iron into a magnet for as long as it continues to flow. The device works as follows: each of the keys and pedals is connected to an electro-magnet so that when it is depressed it closes a circuit and activates that electro-magnet to attract a contact arm fitted with a stylus, the stylus entering the note struck in the form of a line corresponding in length to the duration of the note on a strip of paper fed through in a suitable manner below it.”*

We can assume that Welte & Sons used this or a similar process and therefore that pitch, note-length, tempo, and pedalling (only the right pedal, though) exactly correspond to those of the performance recorded. This also covers the agogics that constituted such an important part of the art of interpretation in the period we are discussing. There remains the question of dynamics. All we have today are the finished rolls. We can analyse the perforations and we can examine the reproducing mechanism, but as regards Welte’s recording-device, which they claimed would “record and preserve a pianist’s performance with all its nuances of touch,” we are completely in the dark; there is no patent specification for their method of recording the dynamics of a performance. It is almost as if this secrecy had been a deliberate part of the firm’s policy for the “miracle Mignon”, as they referred to their instrument. Walter Donath of Zittau, one of the firm’s consultants who is still alive, reports as follows:

*“I was at Welte’s on a number of occasions, each time for a number of weeks, and towards the end of my time there I asked Mr. Bockisch if I might attend a recording session and have a look at the recording-device. Mr. Bockisch replied with a charming smile,*



*'You've made the acquaintance of our reproducing device and have seen that the way it works, even as regards the finer modulations, is basically extremely simple. The way the recording-device works is even simpler, but that is our most closely guarded secret. Apart from myself and my brother-in-law Edwin Welte, our technical director is the only person who knows about it'.*"

Firms such as Philipps of Frankfurt-am-Main, who made no significant contribution to this field, used a somewhat rough and ready method here. Leopold King, an organ-builder of Aschaffenburg and one of the few ex-Philipps technicians still alive today, has told me that a number of experts would make notes about the dynamics while the pianist was recording and then transfer these to the music rolls afterwards. Photographs taken during recording sessions show that Welte & Sons must have had a better method than this. No matter how perfect the recording technique, however, its one big defect lay in the fact that the dynamics as recorded could not be reproduced directly (as could the notes, note-lengths, etc.) but had to be adapted to the capabilities of the pneumatic reproducing-mechanism. For example, a trill came out as a trill. To reproduce it exactly the same shading as the player had given it was a sheer impossibility. Further limitations arose out of the fact that the pneumatic mechanism was divided into bass and treble departments, the division occurring at  $f$  sharp<sup>1</sup>/ $g$ <sup>1</sup>. If both hands were playing in the same department, the possibility of distinguishing between them dynamically was very much reduced. A further distortion was due to the constant use of the left pedal in *piano* and *pianissimo* passages, not by the pianist himself but so to speak by the recording firm; where the performing pianist actually worked the left pedal is impossible to tell from these rolls. In short, everything to do with dynamics must be regarded as an approximation only. How close a particular recording is to the original performance generally depends on the nature of the piece being played. Nevertheless, in spite of all these reservations, it is amazing how many of these rolls, when played on a reproducing-instrument in perfect working order, give the impression of a live performance. The praise that pianists and composers heaped upon this invention was undoubtedly justified.

But if the rolls that have been preserved are unsuitable material for a study of dynamics in the playing of the pianists concerned, they do give us information about all the other things that go into the interpretation of a work of art, and here we turn to the first of our three headings.

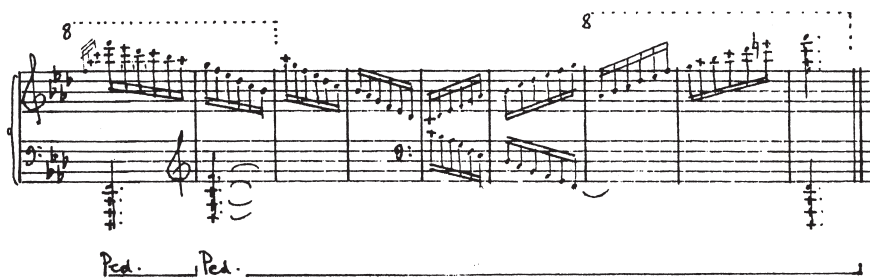
#### **a) Rolls recorded by famous pianists**

The first question that suggests itself in connection with these recordings is what was the performer's attitude to the score and how did he see his role as mediator between composer and listener?

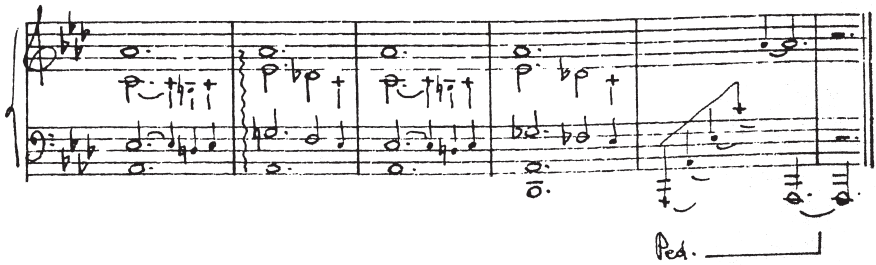
Most of the pianists who recorded for the Welte-Mignon were born around the middle of the nineteenth century. The oldest was Carl Reinecke, who was born in 1824. Others were, in order of birth, Theodor Leschetizky (1830), who was a pupil of Czerny, Vladimir von Pachmann (1848), Teresa Carreño (1853), Ignacy Jan Paderewski (1860), Emil Sauer and Bernhard Stavenhagen (1862), Alfred Reisenauer (1863), Eugen d'Albert (1864), Ferruccio Busoni (1866), and Frederic Lamond (1868), to mention only a few. The rolls recorded by these and other pianists give us an interesting picture of nineteenth-century styles of piano interpretation.

Basically the pianist was concerned to give his version of the work. In classical pieces this independence of approach confined itself to agogic details, but in the case of nineteenth-century works it could range from agogics to minor deviations from the score right up to complete reworkings. It led to some mutilations, but it also led occasionally to some remarkable interpretative achievements.

Let us look at some examples. One bad habit of that generation of pianists was to try and lend a personal note to the performance of a piece by changing the final bars. The result was crass distortions. D'Albert, for example, sacrifices the end of Schubert's *Impromptu*, opus 142, no. 4, to a virtuoso's whim by matching the descending scale that covers the whole compass of the Schubertian piano with a counter-movement that ends bombastically with two four-note F minor chords at the extremes of the modern grand piano (Welte-Mignon roll no. 421, recorded 1905):



A more common fashion was to reduce or (as was more usually done) exceed the prescribed number of bars. One of the few examples of the former procedure is d'Albert's performance of Liszt's *Liebestraum* no. 3 (Welte-Mignon roll no. 415, recorded 1905). Much to the listener's surprise d'Albert does not play the piece to the end but closes it ten bars earlier with an A flat major arpeggio. He omits the whole *Abgesang* and with it the piece's final flourish in the Neapolitan sixth before the concluding cadence. The result, if regrettable, is not entirely unacceptable, whereas Lamond's two bar extension (Welte-Mignon roll no. 570, recorded c. 1905) is a clear case of mutilation:



Lamond was insensitive to the fact that nothing can follow Liszt's last chord here. The piece has said all that Liszt or anyone else can make it say. Yet Lamond felt compelled to repeat the final bars and to play a minor sub-dominant in place of the major sub-dominant, making the piece end sadly. The objection is not merely that this destroys all musical proportions but also that Liszt's *Liebesträume* have nothing to do with the kind of resignation that so often prompted Schubert to employ this kind of turn of phrase; they are songs of spiritual fulfilment.

Even so, Lamond's addition is clearly a serious attempt to make a personal statement about Liszt's piece. Pachmann's additions, on the other hand, are just silly trivialities. Pachmann gives us Schubert's F minor *Moment musical*, opus 94, no. 3, with this ending (Welte-Mignon roll no. 1211, recorded c. 1906):



Gaffes of this kind have nothing in common with the type of variation that arises out of the player's intuitive understanding of the work of art. The performer was (and still is) regarded as a "creative" artist; he was expected to play "more than the notes". A pianist who saw the role of the interpreter as being not so much to add things to the work (he did this with the greatest discretion) as to give it a thoroughly personal treatment in the agogic sphere was Paderewski. The key to the art of interpretation as he saw it was *tempo rubato*:

"There is in music no absolute rate of movement. The tempo, as we usually call it, depends on physiological and physical conditions... There is no absolute rhythm. In the course of the dramatic development of a musical composition, the initial themes change their character; consequently rhythm changes also, and, in conformity with that character, it has to be energetic or languishing, crisp or elastic, steady or capricious. Rhythm is life".

In this spirit Paderewski recorded a large number of rolls. His *tempo rubato* is not always entirely successful. Certain recordings, however, particularly of Chopin, are extremely impressive in the way the fluctuations of tempo, radical differences of tempo between different parts, pauses, and other effects are balanced out, as for example in the G major *Nocturne*, opus 37, no. 2 (Welte-Mignon roll no. 1255, recorded c. 1906) or the C sharp minor *Waltz* (Welte-Mignon roll no. 1257). A particularly impressive feature of the *Nocturne* is the way Paderewski handles the bridge passage to the new theme (bar 28) and his *adagio* playing in this part. Paderewski seems to have regarded the G major *Nocturne* as a good example of his art of execution, because he mentions it in his essay on *tempo rubato*. Less satisfactory to the modern ear is all the arpeggio playing in his interpretation of the E major *Etude*, opus 10, no. 3 (Welte-Mignon roll no. 1254), for example, where it is intended to lend a note of poetry to the performance. Arpeggio playing characterizes the work of other pianists of the period as well; it appears to have been a feature of nineteenth-century piano style. Paderewski's recording of this *Etude* also reveals another convention of the time - that of striking the bass note before the melody note. It would be interesting to know the origins of this mannerism. They may lie in Schumann's piano style, because in most of his piano works this is expressly prescribed.

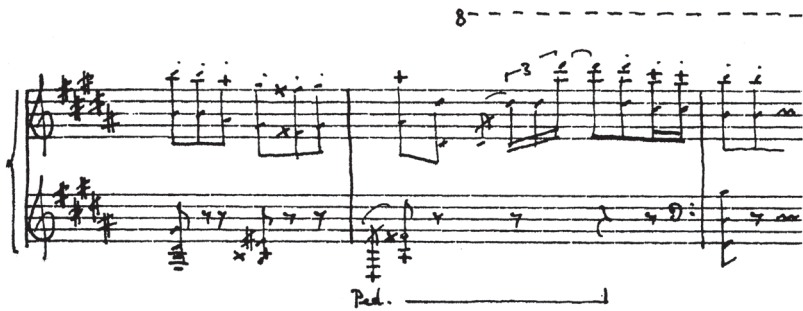
It is also worth pointing out that Paderewski played his own works too with marked fluctuations in tempo for which there is no indication in the score. This shows clearly that for him the actual reproduction of the work was in the hands of the interpreter.

Where Paderewski only seldom made changes to the score (though he sometimes took a freer hand with the accompaniment), Leschetizsky allowed himself a good deal more latitude. The rolls recorded by Leschetizsky, who virtually belonged to Chopin's generation, represent an important slice of the history of nineteenth-century piano playing. Particularly interesting is his recording of Chopin's D flat major *Nocturne*, opus 27, no. 2, which he plays by and large as the composer wrote it but treats the ornaments as an improvisatory element that he is at liberty to change. The balanced and thoughtful way in which he does this within the limits set by Chopin himself makes this recording a good example of Leschetizsky's art of interpretation. Chopin might have played it that way himself. This kind of free treatment of ornamentation had a long tradition going back to the baroque period and clearly extending far into the nineteenth century.

Busoni's recording of Liszt's *La Campanella* (Welte-Mignon roll no. 444, recorded 1905) goes a step further. The most striking change is the breath-taking extension of the trill on the D sharp<sup>4</sup> to something like six times its original length - a passage that holds the same kind of tension as the long trill at the end of *Salome's Dance* (Richard Strauss). In other places he makes cuts, tightening the piece up, and occasionally he introduces variations that arise



spontaneously out of his manner of execution. The beginning, for example, he plays in octaves in order to leave himself room for some heightening in the repetition of the refrain. The first “flash” comes in bar 6 of the theme, which Busoni plays as follows:



Busoni's edition of the work (Edition Breitkopf, no. 484) shows his faithfulness to the score. Where the score is no more than a basis for improvisation by the player we can begin to talk in terms of paraphrase. Liszt was the great exemplar here. His pupil Reisenauer, whose style is said to have resembled most closely that of Liszt himself, recorded his master's arrangement of Chopin's *The Maiden's Wish* (Welte-Mignon roll no. 325) - "played in personal recollection of Franz Liszt", as it says on the roll. The recording contains a number of brilliant improvisatory interpolations and gives us an idea of the freedom with which Liszt very likely played his own works.

So much for the rolls recorded by interpreters. Let us now turn to the rolls on which composers recorded their own works.

### b) Rolls recorded by composers

According to a Welte catalogue of the twenties the following composers recorded rolls for the "reproducing-piano": Debussy 6, de Falla 2, Fauré 5, Glazunov 10, Granados 5, Grieg 3, Humperdinck 3, Kienzl 7, Leoncavallo 6, Lyapunov 4, Mahler 4, Medtner 9, Petyrek 5, Ravel 2, Reger 8, Saint-Saens 8, Scott 3, Scriabin 6, Strauss 7, Weissmann 2.

It was by no means always their intention in doing so to lay down a binding version of how the particular work should be performed - as it was in the case of Stravinsky, for example, who recorded many of his early works on the "Pleyela" for exactly this reason. In fact surprisingly enough only Kienzl laid stress on the fact that *"the authentic performances of the works of today's composers as recorded on this device will provide the executants and interpreters of the future with a pattern and a guide"*.

On most of these rolls the composers abide by the score, but there are

exceptions. Let us look at two of these.

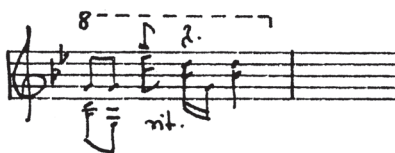
On 8 December 1905 Max Reger recorded on Welte-Mignon roll no. 1017 the last (no. 5) of his *Humoresques*, opus 20. Reger's playing is uneven, and he allows himself one or two deviations from the score. In bar 12 he introduces an attractive variant that was to be incorporated in future editions:

His treatment of bridge bar 18 is even freer: the  $\frac{6}{8}$  bar of the score is extended in the recording to an  $\frac{11}{8}$  bar, with Reger playing the octave

Original version



Welte version



arpeggio five times more than provided for in the original.

Recording his own *Andaluza* (Welte-Mignon roll no. 2778), Granados introduced a whole series of improvements. The rhythmic accompaniment is more fluent in the recorded version, the harmony has been altered for the better in certain places (the last chord in bar 14 and the subsequent parallel without the C), and the melody gains in colour with the addition of a mordent on B (in bar 7, fourth eighth, and at the same place in the repeat).

### c) Works composed specially for the “Welte-Mignon”

No general study of these works has yet been made, though it would be of the greatest interest to have the scores of them. In most cases we only know that the rolls were made; we do not know where they are now or even whether they still exist. Nor do we know whether there were manuscript versions of all or a part of these compositions and, if so, whether the manuscripts still exist.

One of the first composers to write specially for the player-piano was of course Stravinsky. His *Study for Pianola*, written in 1917, received its first performance in the Aeolian Hall, London, on 13 October 1921. Various other composers including Milhaud and Goossens also wrote for player-piano manufacturers, but our subject here is the “Welte-Mignon” and I propose to deal only with compositions written for this particular instrument.

To a whole new generation of German composers, who were beginning to react against late-Romantic music in terms of a new coolness and rejection of expression, the player-piano must have appeared a most suitable instrument on which to concretize their idea of an “objective” music. The spokesman of such music for mechanical instruments was the Austrian composer Ernst Toch:

*“The type of music we are talking about here is not any old music played by a mechanical instrument; it is music for a mechanical instrument, just as we have music*

*‘for violin and piano’ or music ‘for orchestra’. Like them, it is composed in the spirit of its instrument and on the basis of that instrument’s potential. It is governed and influenced by the essence of that instrument... the instruments we have in mind being for example the mechanical organ and the mechanical piano. An apparently external but still quite important factor is the possibility of exploiting the whole keyboard simultaneously and without regard to the shape of the human hand. This regard, whether conscious and admitted or latent in the form of an unquestioned habit, has inevitably led hitherto to a particular type of composition that, though allowing of differences in detail, basically lies within certain strict limits - the limits of ‘composition for the piano’ or ‘composition for the organ’.*”

Not only would such music be unplayable; it must of necessity be unplayable in order that it should remain untouched by the modifications that arise out of personal, emotionally-coloured execution. Music of this kind must be drawn; in other words the notes must be transferred to the paper roll with metronomic precision. A music roll perforated in this way will be *“the image of the most perfect geometrical exactitude, and the sound produced will accordingly achieve a degree of exactitude that human execution can never achieve; the performance will be perfectly objectified, perfectly depersonalized. Nothing can slip in that is not laid down in the notes as regards pitch, metre, rhythm, tempo and dynamics. All traces of spontaneity, feeling, and impulse are necessarily excluded.”*

The first tangible results arose out of the Donaueschingen Chamber-Music Festival of 1926, at which the “Welte-Mignon” piano played works by Paul Hindemith, Ernst Toch, and Gerhart Munch. The programme was:

Hindemith - *Toccata* (original composition)

Hindemith - *Rondo* (from the opus 37 piano music)

Toch - *Four Studies* (1, 2, and 3 being original compositions for the “Welte-Mignon” piano, 1926, mentioned in the article on Toch in *Musik in Geschichte und Gegenwart*, vol. 13, column 445, and the fourth being an arrangement of the 1924 burlesque *The Juggler*, opus 31, no. 3)

Munch - *Six Studies*

The “Welte-Philharmonie” organ also played Hindemith’s *Triadic Ballet*.

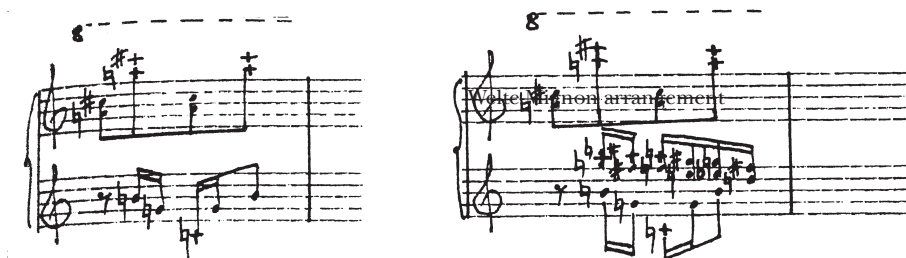
The only one of the above-mentioned pieces known to be still extant is Toch’s fourth *Study*. According to a supplement to the catalogue *Welte-Mignon/ Reproductions* of September 1926, however, all the rolls were duplicated and offered for sale at 10 marks each; Toch’s *Four Studies* bore the roll numbers 4103-6, Hindemith’s *Rondo* and *Toccata* 4107 and 4108, and Munch’s *Studies* 4109. The heading on the roll with Toch’s fourth *Study* is as follows:

Welte-Mignon no. 4106  
Study IV  
*The Juggler*  
Ernst Toch

Arranged for Welte-Mignon

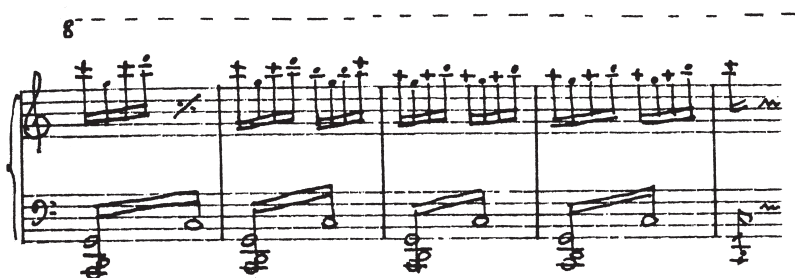
Not played by hand but transcribed mechanically

The “Welte-Mignon” arrangement is very much more burlesque than the Original (bar 62)



version for solo piano. This is due above all to the introduction of accompanying voices, as in this passage:

The final bars are given rich harmonic variety, really “Exploiting the Original (bars 133-7)

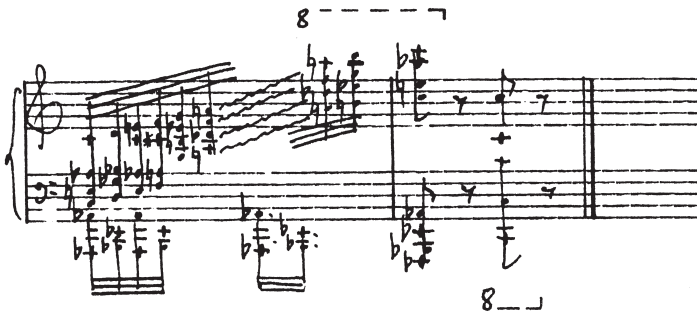


Welte-Mignon arrangement



whole keyboard simultaneously and without regard to the shape of the human hand”:





The 1927 Chamber-Music Festival was held in Baden-Baden. In his essay *On Mechanical Music* published shortly beforehand, Hindemith put forward the view that the cinema in particular called for mechanical music. In the same year he composed his music for the film *Felix the Cat at the Circus* for mechanical organ and in 1928, the music for the film *Morning Ghost* (*Vormittagsspuk*) for the “Welte-Mignon” piano. These rolls too have disappeared. Since the *Vormittagsspuk* roll does not appear in a Welte catalogue supplement of October 1928, we can assume that it was not duplicated.

Two further composers wrote music for the “Welte-Mignon” piano in 1927, and their rolls were duplicated and offered in the catalogue at 10 marks each. They were Hans Haass, who wrote a *Capriccio Fuge* and an *Intermezzo* (Welte-Mignon rolls 4150 and 4151), and Nikolai Lopatnikov, who wrote a *Scherzo* and a *Toccata* (Welte-Mignon rolls 4152 and 4153).

With these compositions written specially for its instrument the firm of Welte & Sons enjoyed its last heyday. Mobilizing the interest that well-known composers had shown in the “Welte-Mignon”, the firm launched an extensive publicity campaign aimed at the discerning public. The 1926 rolls, Hindemith’s *Toccata* and *Rondo* and Toch’s *Four Studies*, were sent out to the firm’s representatives in the major German cities and there played at special recitals. But neither the new “Welte” model, reduced in price for the “music-loving cultured middle classes”, nor the campaign were able to save the firm. The gramophone record was already triumphant.

With the passing of Welte & Sons a chapter of musical history reached its close. We are indebted to one or two museums and above all to the many enthusiastic collectors of mechanical musical instruments for the fact that many of its documents have been preserved and can still be played today.

*In 2007, Dr König adds:*

I wrote this article some years ago, and I am happy to report that since that time ten out of the eleven published compositions for Welte-Mignon piano have been found, although the rolls for Welte organ are still missing. In recent years there has also been much discussion about the methods used by Welte for recording their music rolls, and I have come to the following conclusions.

The manufacturers of Pianola rolls had no apparatus for dynamic recording. Because they wanted people to buy the rolls, they pretended otherwise. Edwin Welte spoke always of the “secret”. But the secret was that there was no secret. The firm of Welte patented its mechanism for playing back the rolls, but there was no corresponding patent for a device which would have recorded the dynamics.

However, what is more important is to realise that there was no point in accurately recording the dynamic information, because it simply could not be transferred to the rolls. The limitation of three main stages of loudness in the Welte-Mignon (with vague transitions by means of an imperfectly controllable crescendo) shows clearly that it was regarded as an impracticable dream to be able to reproduce such details, although very soon afterwards the gramophone was to prove to the contrary. But Welte had not dreamed of such technical progress.

It was also significant that the firm did not employ any musical specialist who could have competently supervised the musical production of rolls. Since the process had to do with piano music, the least they needed was an experienced pianist. Instead of this they hired a musician from the Freiburg Theatre, and sometimes it was Herr Bockisch himself who listened through to the rolls at his house in Freiburg, as his wife told me herself. Only in 1922 did a specialist in piano music come to the firm, in the person of Hans Haass. The terminology used has a correspondingly amateurish flavour: *crescendo forte* and *crescendo piano* should really be called *crescendo* and *decrescendo*.

In recent times there have been audio recordings of the Welte-Mignon published in Germany, and despite the limitations of dynamics which are inherent in all Welte rolls, these sound astoundingly good, and very often reproduce the personal styles of various composers (Reger, Strauss) in a characteristic way. But to understand how far removed Welte recordings are from the reality of what they sought to reproduce, one only has to listen to the gramophone recordings of the same pianists. Similarities and differences can at once be recognised.

## A la recherche des rouleaux perdus:

A story of lost Welte-Mignon rolls from Cologne, as told in January 2007

by Karl Otto L.

Jeanette Koch

*In reading the detailed history of the house of Welte, from the early 19th century until the Second World War, one is struck by how frequently history is affected by the element of chance. The Welte-Mignon itself was largely the product of two men who met by chance at elementary school and became lifelong friends. Chance also affects history in very intimate ways, such as the discovery of a lost cache of Welte rolls in the basement of an abandoned house in Cologne. The Pianola Journal usually reports on the universal aspects of the history of the player piano. Here, for a change, is a look at the particular.*



*Harvesting at the Hildesheim Estate.*

The story begins in the 19th century, with the family of one of Karl Otto's great-grandfathers, wealthy landowners, who owned estates near Hildesheim and Cologne. Great-grandfather was fired up as a student with the new genetic theories of Mendel, and he tried them out on his own sugar beet crops. These new-fangled ideas were of course opposed by his father, but the son managed to develop a new strain with a very high yield, and travelled worldwide selling his seeds. One of his major customers, according to his daughter, was the Esterhazy family, in their time patrons of Haydn and his orchestra.

Karl's grandparents married in 1913, and were given one of the family estates, which comprised land and a brick-making works near Cologne, and in order for the young couple to have a good start in life, a big house was built for them on the estate, to move into after the wedding. In 1914, Karl's father

was born, but the Great War broke out and life changed forever. However, the grandparents were able to live in the house during the War, and afterwards they thought they could take up the grand old life of pre-war Germany, and wanted to have their own entertainment system out in the deep countryside! Cologne was then, as now, a great cultural centre with a first-class orchestra, and so they bought a Steinway Welte Grand with a goodly supply of rolls, probably from the best music house of the time in Cologne.

In the late 1920s the grandparents split up - Grandfather went to Wiesbaden and Grandmother moved in to a big villa in Cologne with the Steinway and all the rolls. Karl's mother, who was born in 1921, and whose own mother came from England in 1910 to study piano at the Berlin Conservatoire, still remembers this instrument being played in the big house in the early 1930s. Then the Second World War broke out. The house in Cologne was partly evacuated, but the Steinway was too weighty to move. All the rolls were stored in the basement of the house, in the area that had been built as a provisional air raid shelter for the inhabitants. English (or perhaps American) bombs were dropped on the house and took the roof and top floor off. But happily the Steinway was on the ground floor and survived unscathed. Grandmother was evacuated to the countryside, and the house was abandoned.

After the War, Grandmother came back and tried to live in the bombed villa while the roof was provisionally repaired. Remarkably, the Steinway was intact, and nothing in the house had been stolen. The task of reorganizing a city which was 90% destroyed was mammoth, and the villa was deemed too large for the Grandmother alone, so she was obliged to move out to accommodate larger families. Until 1951 she lived in a sizeable gardener's house in the garden of the villa. Karl has fond memories of visiting her, as a little child, and climbing trees and being allowed to play in the basement of the villa. In this basement were, of course, the pinkish-red Welte rolls! Karl and his brother thought them rather strange, and they invented a roll-throwing competition, unravelling them in the huge garden to find out who had the longest roll! He remembers it wasn't much fun trying to tear them up, as the paper was really tough - a good thing, as it stopped too many being destroyed. Eventually the grandmother and her daughter moved back into the villa, with the Steinway still sitting there. Karl remembers seeing it and wanting to play it and discover how it worked. He was shown how to put the rolls in, but alas the mechanical parts would not function, and the two ladies were certainly not practically minded.

The good old times of pre-First World War days had finally come to an end, and the Steinway was sold, or perhaps even given away, to make room for the two ladies, as the repaired top half of the house had to be let. The Grandmother, original purchaser of the Steinway, died in 1974, and Karl's aunt continued to live in the house until 1992, when she vacated it to move into a hotel, leaving everything behind. The house stood empty with all her possessions, with the rolls still in the basement for another 14 years. The aunt finally died in 2006, and the 2 piano-roll-throwing boys, now both over 60 years old, had the unenviable task of sorting out the house and its contents. The



aunt had shown no regard for the condition of the house; the roof leaked, water pipes had burst, and there were high levels of damp in the basement, due to the fact that the former air-raid function meant there was a chronic lack of ventilation. Fortunately water did not penetrate, and when Karl found the rolls still in place, he contacted Jeanette Koch of the Pianola Institute.

Jeanette pleaded with him to salvage as many rolls as possible, but Karl was rather dubious about the task, as fungus was rampant, thanks to the high level of humidity and warmth. Wherever there were glued parts, such as on the boxes and around the wooden spools, the spores had fed on the glue. Miraculously the paper itself was not affected. However, the salvage operation was hampered by the vile atmosphere of the basement, which made it difficult for the men to breathe, and they had to take a break every two hours. But persistence prevailed, and in January 2007, Jeanette received a phone call from Karl to say that the rolls had been shipped to London, and awaited collection in a factory in Harlesden. She collected what turned out to be 80 rolls from a very skeptical factory manager who suspected they might be secret Enigma rolls containing encoded information to aid the German war effort!

For Karl's part, he felt that as the British bombs didn't destroy them, they should be sent to Britain to give further fun and pleasure. For Karl, these piano rolls were one of his earliest childhood memories, and he is glad they are now in good hands and back in the homeland of his maternal piano-playing grandmother!

*Denis Hall, the grateful recipient of these rolls, adds:*

What an amazing twist of good fortune that Karl knows Jeanette, and that she is a pianola enthusiast! Having seen the discouraging packing crates of a mixture of disintegrating, rotten boxes, mixed up with the pink Welte rolls, some of which looked very sorry for themselves, no-one could have blamed Karl if he had immediately dumped them in the re-cycling bin. However, after carefully cleaning away the fungus, and, with a deal of impatience waiting for them to dry out, the vast majority of the rolls have turned out to be in good playable condition, a remarkable testimony to the quality of the paper that Welte used in the 1920s.

As to the titles, Karl's grandmother must have had quite a discriminating taste in music, and probably would have taken advice on which rolls to buy from a Welte salesman. Almost without exception, the rolls are of good performances, and many would have been new or recent releases at the time. Eugen d'Albert and Alfred Hoehne must have been particular favourites - I wonder whether Grandmother had heard them in recital and enjoyed their playing? German and Austrian composers such as Brahms, Beethoven and Schumann are much in evidence, but there is little Chopin and almost no French music. And, thank goodness (as far as I am concerned!) only three of those heavily-arranged dance rolls which Welte seemed to have loved!

So, this itinerant collection of Welte rolls has found a new and safe home, and will give a great deal of pleasure to a further generation of music lovers. My grateful thanks to Karl, and to Jeanette too.

## Concert Review: Almost Lost - Another Way to Play the Piano

Jim Edwards

**A reflection on the Pianola Institute's 21st Birthday Concert - 'The Pianola in Russia'. Sunday 3rd December 2006 at 3.00 pm. Purcell Room, South Bank Centre, London. Denis Hall and Rex Lawson, pianolists.**

While waiting for Denis Hall and Rex Lawson to take to the stage, I reflected on the fact that this concert was just the latest footnote to a past century of public performances involving player pianos. Such concerts have been vital to the long term survival of a type of music making regarded by far too many as of little interest. Nothing could be further from the truth. The public in 1925 loved player piano concerts just as much as it does today.

On-going concerts such as those given by the Pianola Institute over the last 21 years keep alive a support group for the pianola and reproducing piano. The pianola encourages people to take charge of creating their own music by adding their own personality to rolls, whereas the reproducing piano enables listeners to hear long dead pianists in the bloom of their artistry by way of roll recordings.

Having attended both the first and most recent concerts sponsored by the Institute, I can tell you with all honesty that without the Institute giving such concerts these days, the general public would never have the opportunity to hear and honour this type of music making. The Institute also expands its support group by occasionally issuing CD recordings.

### **The Pianola in Russia**

If one wants to fill a concert hall these days, Russian music never fails. The Purcell Room concert started with reproducing rolls from the Welte-Mignon and Duo-Art libraries. These special artist recordings stand as remarkable 'look-sees' into the keyboard practices of a golden age of keyboard giants.

One of the best thoughts with which one was left after hearing this selection of ten piano pieces was how well the planners of the concert had made their choice of what to play. They captured a transitional era when romanticism at the keyboard was on its way out, and percussive, non-melodic 'futuristic' music à la Antheil, Toch, Ornstein and so on, was on its way in.

Rachmaninov playing his *Prelude in C sharp minor*, Op 3 no 2 (Duo-Art roll 8025/Ampico - 1919) was breathtaking, cleanly played and sounding modern in approach.

The two Liszt piano rolls that followed, *Feux Follets* - Transcendental Etude no. 6 and *Benediction of God in Solitude*, played by legendary keyboard artists Arthur Friedheim and Alexander Siloti, both Liszt pupils by the way) (Welte 215 and Duo-Art 6636) treated us to music so big in scale that the concert

grands' sides almost popped! Real crowd pleaser compositions whose appeal has not waned in the years since they were written.

Chopin's music was represented by his *Barcarolle* Op 60. Annette Essipoff's delicate singing tones make this work sound freshly written (Welte 1076). Three Sergei Prokofiev roll recordings made for Duo-Art remind us just how good a pianist he was (Duo-Art 6344, 6153 and 6774). Ossip Gabrilowitsch is often ignored as a keyboard master, and remembered only as Mark Twain's son-in-law. Ossip was not only a fine composer and pianist, but also an outstanding conductor. His own *Melodie* Op 8 is a masterpiece in miniature (Duo-Art 6926). *Preludes* Op 11 nos 3 and 14, composed and played by Alexander Scriabin (Welte 2069) contrasted with Rachmaninov's *Preludes* Op 23 nos 5 and 12 played by none other than keyboard super star Vladimir Horowitz (Welte 4123). Nikolai Medtner's *Danza Festiva* Op 38 no 3 (Duo-Art 6909) offered a rare look at his often ignored music. To end this first half of the concert, the pianist's pianist, Josef Lhevinne, performed the over-the-top Schulz-Evler transcription of Strauss's *Arabesques on the Blue Danube* (Welte 1305).

Nearly all the Welte rolls used in the concert were copies of original rolls made on Tom Jansen's roll cutting machine. Tom runs the *Musikwerkstatt Monschau*, near Aachen, Germany, and he has a catalogue of over 800 Welte 'red' rolls available for purchase. He had travelled from Germany to London with the Welte vorsetzer (player) specially for the concert, and during the interval was only too pleased to explain the workings of the Welte system, and allow the audience to view the innards of the instrument.

### Pianolists on Parade

To get the concert really rolling, a pun greatly intended, Rex Lawson, who once laid claim to being the 'World's Only Professional Pianolist', treated us to Alexander Rosenblatt's *Jazz Variations on a Theme of Paganini*. The score was carefully transcribed on to the roll (Perforetur 0114), but all the artistry and music flowed from Lawson. New music such as this is only possible on a piano roll not dependent on human fingers to hit all the right notes. Don't take my word on the creative range of the pianola - take Igor Stravinsky's "thumbs up".

Yes, Stravinsky not only respected the pianola, but wrote for it. Denis Hall took to the stage at this point and delivered a performance of Stravinsky's *Etude pour Pianola* (Themodist T967). In the world of a pianolist, when the player has turned in a fine performance, his compatriots note that the work was 'well pedalled;' ... well pedalled, Denis! The concluding thrill of the evening was our pianolists, wearing bright cream dinner jackets, with their Aeolian push-ups married to monster Steinway grands, hitting a musical home straight with a performance of Rachmaninov's *Suite No 2* for two pianos, Op 17. A fine full blooded interpretation by Denis and Rex at their respective Pianolas (Perforetur CS 20097/8/9/100). If one did not attend the concert, there is no way of knowing how they juggled four roll changes, and I'm not willing to give away the secret. But it did not involve eight bunnies and two top hats!

## Concert Review: Rachmaninov's Third Concerto, for Pianola and Orchestra, Op. 30 - Really?

Denis Hall

Playing piano concertos on the pianola with orchestra has a long and honourable tradition. One of the first (if not *the* first) took place in 1902, when a certain Mr Sydney Smith played the Mendelssohn G minor on a Triumph piano player. The most widely known performance, thanks to some famous illustrations, was the 1912 Queen's Hall event when Easthope Martin played the Grieg, accompanied by the London Symphony Orchestra, and conducted by no less a celebrity than Arthur Nikisch. In 1930, Bill Candy played the Grieg again, with the Insurance Orchestra, a well drilled amateur band of employees from the many insurance company offices in and around London.

Earlier this year (2007), on Friday 8th June, a very special event took place: the first ever performance of Rachmaninov's Third Piano Concerto with the solo part played on a Pianola. In the large concert hall of the Flagey building, once the home of radio broadcasting in Brussels, Belgium, Rex Lawson performed the concerto with the Flemish Radio Symphony Orchestra, conducted by Yoel Levi.

But some background to this remarkable event is called for. Rex was approached in 2006 with the proposition to play a piano concerto with orchestra as the highlight of the 2007 conference of the International Society for the Performing Arts, and Rex, being a Rachmaninov lover, immediately responded with the suggestion of his Third Concerto. Of course, no rolls of this work existed, not even in



arranged form with the orchestral part included. So Rex, using his personalised Apple 2e computer laboriously, and with great musical judgment, set about creating the three long rolls needed for the occasion. The first movement was just about possible on one roll. However, the second and third movements are continuous, and their playing time is far too long without a roll change. Fortunately, towards the end of the second movement, there is a passage for the orchestra alone of about one minute, just long enough to reroll and put on another roll. So, in good time, the three unique rolls were ready and cut.



For an occasion like this, Rex is fastidious in his preparations, and the rolls were duly marked up with bar lines, dynamic markings taken from the score, and even the orchestral cues, so that he would be able to find his way to specific moments in the music during rehearsal - just as a 'normal' pianist would. In addition, during several weeks before the performance, Rex listened to Rachmaninov's own recording of the work in any spare moment. The result was that by the time of the first rehearsal, he was ready to enter into the spirit of the music making without being hampered by concerns over the mechanical aspects of dealing with the rolls and the Pianola.

On the day of the first rehearsal in Brussels, Rex and I flew from Bergen in Norway, having just undergone (!) a Duo-Art performance of the Grieg concerto as part of the International Grieg Festival there, and we arrived at Brussels airport around 9.00 am, to be met by a friendly and helpful driver who announced that Mr Levi wanted Rex at the rehearsal immediately! No time for nerves, and by 10.00 am, the Pianola was set up in front of the resident Steinway concert grand, and Rex and the orchestra plunged in, the two parties responding to each other as if they had been playing together for years. It was quite a moment, and a revelation for the conductor and the orchestra, I think. Yoel Levi, I feel, could not have been more supportive or friendly, and while there were a few places where Rex might have had different interpretative ideas, Levi's experience as a conductor and knowledge of the capabilities of the orchestra proved invaluable. Given the limited rehearsal time, Levi was realistic in his demands, both of the soloist and the orchestra, resulting in a certain freshness, and even an element of danger left by the time of the concert.

What of the actual performance? I suspect that very few of the audience had any idea of what they were about to experience, but within a few bars, it was quite obvious that they were in for a genuine musical treat. Orchestra and soloist were as one, playing to each other as the music demanded. Rex chose the more elaborate of the two first movement cadenzas which Rachmaninov wrote, a fantastic display of virtuosity - even on a Pianola. There was a quiet buzz from the audience as Rex changed rolls between the first and second movements, occasioned as much by surprise as anything. For this listener, the second, slow movement was probably the highlight of the concerto. The second roll change was expedited flawlessly, and on to the brilliantly played third movement. The whole performance was a triumph for all concerned - Rex, the Pianola, the orchestra and the conductor.

I cannot finish this report without also mentioning the second part of the concert. Yoel Levi gave a stunning performance of Rachmaninov's late *Symphonic Dances*, a real showpiece for the orchestra, which played its heart out. I have never heard such a performance of the waltz movement, a memory I shall cherish for a long time.

Congratulations, then, to Rex and the Pianola. Occasions such as this show that the Pianola and its rolls are still very much alive and well.

## Contributors

**Gerhard Dangel**, who was born in Rottweil in southern Germany, was educated as a bank economist specialising in company affairs, but since 1979 he has been a museum curator at the City Museums in Freiburg. Working at the Augustiner Museum, which in 2005 presented an exhibition to celebrate the centenary of the Welte-Mignon, he is responsible for musical instruments, the city's Welte archive, the coin collection and general documentation.

**Jim Edwards** is a retired school teacher and lives in Elgin, Illinois, in the Greater Chicago area. His musical interests are wide ranging, but with a specialisation in opera and the piano. With his wife, Wynette, he organised the visit of the Chicago Youth Symphony Orchestra to England in 1985 for its first overseas tour, during which time it featured in the Pianola Institute's inaugural concert at London's Queen Elizabeth Hall. Jim Edwards is currently Music Critic of the Chicago Sun Times Group.

**Denis Hall** has been interested in recordings of pianists since his school days when he could buy new 78 rpm records of his keyboard heroes. He first became aware of reproducing pianos in the early 1960s and bought his first Duo-Art in 1965. These days, he spends much of his time in retirement maintaining his own reproducing pianos in a condition which he hopes does justice to the virtuosi of 100 years ago who entrusted their art to the piano roll medium.

**Jeanette Koch** was educated at Nottingham University, where she graduated in French and Art History. For many years she helped to run an international theatre magazine and typesetting agency, and travelled extensively in Germany, especially the former German Democratic Republic. More recently she has specialised in designer bookbinding, for which she has won many national and international prizes. She was married to the German poet, Arno Reinfrank, and on his death in 2001 she established a literary prize in his name, which she helps to administer in conjunction with the city of Speyer in the Pfalz area of southern Germany. Jeanette Koch is a member of the Friends of the Pianola Institute.

**Werner König**, born in Darmstadt in 1931, is a doctor of philosophy and a retired secondary schoolmaster, who taught music and the German language. He is also a musicologist and music historian, with a particular interest in the music of Alban Berg, and with studies on several of the Austrian composer's works published by Schneider Verlag. As a pianist himself, he has always been interested in the history and music of the reproducing piano, and he has re-introduced many aspects of the Welte-Mignon to the musical world, and has created his own compositions directly for player piano.



