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# Schott: A Music Publisher Producing Musical Instruments\*

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## *Introduction*

The Schott music publishing company was quite innovative by its early adoption of lithography for music printing. Another novel approach for a music publisher was the large-scale fabrication of musical instruments. Schott was primarily a music publisher, not an instrument maker or trader, but a publisher who established a large factory for musical instruments. It applied efficient division of labor by employing mostly specialized craftsmen and only a few general instrument makers. Musical instruments were made in the Schott factory or by contractors. Professional musicians assisted with fine-tuning and final test. Schott considered the sales of sheet music and musical instruments as mutually stimulating. In fact, Schott published a music periodical, *Cäcilia*, including new music and articles about improved instruments, thus promoting instruments sold by Schott to play music published by Schott.

## *The Schott Music Publishing Company*

On January 13, 1770, the young copperplate engraver and clarinetist Peter Bernhard Schott founded an engraving and printing workshop,<sup>1</sup>

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1. Heinz Schuler, "Der kurfürstliche Hofmusikstecher Bernhard Schott" *Gedruckte Musik : 225 Jahre Musikverlag Schott in Mainz* (Mainz: Gutenberg-Museum, 1995).



“Notenstecherei,” in the Rosengasse in Mainz, Germany. At that time, Mainz possessed a flourishing cultural life and an active court chapel, “Hofkapelle,” strongly stimulating the demand for sheet music. Although Schott established his publishing company in 1770, he was clarinetist in a Strasbourg regiment from 1771 until 1773; when returning to Mainz, he played the clarinet in the court chapel. The combination of engraving, printing, and playing music ensured that he was better prepared to become a music publisher than many of his contemporaries. Because Bernhard Schott himself was an active musician, he knew exactly what an artist expected from a music editor. In addition, he realized that a market of related products existed, so he soon sold everything a musician might need.<sup>2</sup>

Johann Andreas, Johann Joseph, and Adam Joseph were the three sons of Peter Bernhard Schott and Maria Antonetta Ernestine Hübsch (table 1). Each son mastered music engraving and, in addition to their broad education, they studied music theory and played musical instruments.<sup>3</sup> Already before 1800, the two oldest sons, Johann Andreas and Johann Joseph, joined their father in his music publishing company. After his death in 1809, these sons continued the business together with their mother, still using the company name “B. Schott.”<sup>4</sup> By 1810, they had applied the technique of lithography, invented in 1797 by Alois Senefelder, to print sheet music. This early adoption enabled them to print and distribute their editions in large quantities for lower prices than most competitors.

Between 1797 and 1814, the French army occupied the Palatinate area, including Mainz, annexing it into the French Republic. During this French period, Schott suffered severe trade restrictions and high taxes, but the interest in French culture grew, clarifying the reason Schott often used the French “Mayence,” instead of the German “Mainz,” in its affiliation. Between 1810 and 1818, the brothers Schott took over several publishers and extended Schott’s portfolio.<sup>5</sup> In 1818, their mother with-

2. Hans-Christian Müller, *Bernhard Schott, Hofmusikstecher in Mainz* (Mainz: Schott, 1977), 33.

3. Joseph Lehrein, “Andreas Schott” in *Neuer nekrolog der Deutschen* vol. 18 (Weimar: Voigt, 1842), 893.

4. Heinz Schuler, “Die zweite Schott-Generation und die Einführung des Stein-drucks” *Gedruckte Musik*.

5. “By 1818 they had absorbed partly or completely the firms of Amon of Heilbronn, Falter of Munich and Kreitner of Worms (together with a part interest in Götz of Mannheim and Worms), as well as the firms of Karl Zulehner of Mainz and

TABLE 1A. Part of the Schott family tree. Managers of the Schott Company, or its branches, are printed in bold.

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**Peter Bernhard Schott** (Eltville Aug 10, 1748 – Sandhof near Heidesheim Apr 26, 1809)  
 x (Mainz Nov 28, 1780) **Maria Antonetta Ernestine Hübsch** (Mainz May 4, 1753 – Mainz Jan 14, 1827)  
**Johann Andreas Schott** (Mainz Mar 15, 1781 – Mainz Aug 20, 1840)  
 x (Mainz Oct 5, 1806) Barbara Dörr (Weisenau Nov 24, 1779 – Mainz May 19, 1869)  
**Johann Schott** (Mainz Aug 12, 1807 – Mainz May 1, 1871)  
 x (Mainz Jan 8, 1826) Eva Sabina Dörr (Mainz May 16, 1802 – >1844)  
**Franz Philipp Schott** (Mainz Jul 30, 1811 – Milano, IT May 8, 1874)  
 x (Mainz Jul 30, 1844) Barbara (Betty) von Braunrasch (Mainz Dec 25, 1820 – Mainz Apr 5, 1875)  
**Peter Schott** (Mainz Aug 21, 1821 – Brussels, BE Aug 30, 1873)  
 x (Mainz Oct 4, 1851) Franziska Rummel (Wiesbaden Feb 4, 1821 – Hospenthal, CH Aug 15, 1888)  
**Peter Schott** (Brussels, BE 1856 – Paris, FR Sep 20, 1894)  
**Johann Joseph Schott** (Mainz Dec 12, 1782 – Mainz Feb 4, 1855)  
 x (Mainz Nov 28, 1807) Claudia Valterre de St Auge (Mézières, FR Apr 20, 1788 – Mainz Sep 1, 1826)  
**August Schott** (Mainz Aug 15, 1808 – Mainz Dec 26, 1856)  
 x (May 22, 1836) Anna Maria Laurenzia Harth (Jan 17, 1801 – Mainz Jan 3, 1882)  
**Adam Joseph Schott** (Mainz Jun 8, 1794 – Nirkee, IN Aug 3, 1864)  
 x (Quebec, CA Sep 15, 1829) Thérèse Rosa Ziegler (Malta ~1811 – London, GB Aug 19, 1853)

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TABLE 1B. Managers of the Schott family and their management responsibilities, printed in italics.

**Peter Bernhard Schott** (1748–1809) *Mainz 1770–1809*  
**Maria Antonetta Ernestine Hübsch** (1753–1827) *Mainz 1809–1818*  
**Johann Andreas Schott** (1781–1840) *Mainz 1809–1840*  
**Johann Schott** (1807–1871) *Brussels 1839–1843*  
**Franz Philipp Schott** (1811–1874) *Mainz 1840–1874*  
**Peter Schott** (1821–1873) *Brussels 1843–1873, Paris 1862–1873*  
**Peter Schott** (1856–1894) *Brussels 1873–1888, Paris 1873–1894*  
**Johann Joseph Schott** (1782–1855) *Mainz 1809–1855*  
**August Schott** (1808–1856) *Mainz Detailhandlung 1840–1856*  
**Adam Joseph Schott** (1794–1864) *Antwerp 1823–1829, London 1835–1840*

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drew from the company and her sons managed the company under the new name “B. Schott’s Söhne” or “B. Schott fils,” the company name until 1995.<sup>6</sup> Around 1817 Schott started, in addition to its music publishing

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Georg Zulehner of Eltville.” Donald William Krummel and Stanley Sadie, *Music Printing And Publishing* (New York: Macmillan, 1990), 416.

6. Marion Brück, “Schott, Musikverleger” in *Neue Deutsche Biographie* vol. 23 (Berlin: Duncker & Humblot, 1953), 485–486.

and printing activities, a factory for musical instruments, a book printing business,<sup>7</sup> and a music library.<sup>8</sup>

### *Trade of Musical Instruments by Schott*

By 1785, in addition to sheet music, Bernhard Schott sold related products like strings, bows, and music paper as well as musical instruments.<sup>9</sup> In 1787, he offered violins, violas, cellos, and pianos in a newspaper<sup>10</sup> and at a trade exhibition in Frankfurt.<sup>11</sup> Clearly, Schott saw the benefit of selling both the sheet music and the instruments with which to play it. One of Schott's long-time suppliers was Johann Diehl (see p. 151). Until 1819, he produced stringed instruments exclusively for Schott and benefitted from Schott's commercial network.<sup>12</sup> Schott permitted musicians to play instruments, before purchasing them.<sup>13</sup> In 1819, Diehl became independent, but Schott still stocked instruments of the brothers Johann, Nikolaus, and Jacob Diehl.<sup>14</sup> Johann Diehl's instruments, in particular, were quite valuable.<sup>15</sup> From an 1812 letter of August

7. "Um 1818 errichteten die Gebrüder Schott neben ihrer eigentlichen Handlung und großen Notendruckerei, einer Kupferstich- und lithographischen Anstalt, auch eine Instrumentenfabrik, besonders für Blasinstrumente . . . Eine fernere Erweiterung erhielt die Handlung zu ziemlich gleicher Zeit endlich durch Anlage einer Buchdruckern." Gustav Schilling, "Schott" in *Encyclopädie der gesammten musikalischen Wissenschaften: Oder Universal Lexicon de Tonkunst* vol. 6 (Stuttgart: Köhler, 1840), 252.

8. "Anzeige der neuen Musik Leihbibliothek, von B. Schott in Mainz" in *Beilage zu Der Rheinische Blätter*, no. 10 (Jan. 18, 1817).

9. "Nicht nur mit Instrumentenzubehör, auch mit Instrumenten hat Schott seit 1785 gehandelt." Hans-Christian Müller, 33.

10. Schott offers "Cremoner Violinen, sodann Violinen, Bratschen und Violoncellen von guten Meistern" in *Frankfurter Staats-Ristretto* no. 151 (Sep. 24, 1787).

11. "Schott, Bernard, Hofmusikstecher von Maynz, mit Musikalien, Schreib- und Zeichnungsmaterialien, Violinen, Forte Piano." *Frankfurter Meß-Schema* (1787).

12. "Lange arbeitete er für die Musik- und Instrumentenhandlung der Gebrüder Schott, ohne das seine Virtuosität in seinem Fache nach Gebühr gewürdigd und belebt worden wäre. Seit ohngefär vier Jahren arbeitet er selbständig für sich." in "Kunstanzeigen" in *Beilage bei: Der Spiegel, Zeitschrift für Wissen, Leben u. Kunst* no. 46 (Mainz: Kupferberg, Nov. 7, 1823).

13. "Hr. Schott hatte im Brauch, die Geige von Hrn. Diehl durch Künstler und kunstfertiger Diletanten ausspielen zu lassen." *Ibid*.

14. "Nebst allen ins musikalische Fach einschlagenden Artikeln empfehlen wir auch unsern Vorrath von alten Geigen italienischer un deutscher Meister. Neuen geigen und Bässe von Johann, Nikolaus und Jakob Diehl," *Beilage Cäcilia*, vol. 9, nr. 36 (Nov. 1829): 18.

15. "Seine Violinen (meist nach Stradivari gemacht) wurden ihm schon bei Lebzeiten mit 66 fl., Violoncelli mit 121 fl. und seine Violen, zu denen er gerne Citronenholz verwendete, mit 88 fl. bezahlt." Willibald Leo Lütgendorff, *Die Geigen- und Lautenmacher vom Mittelalter bis zur Gegenwart* (Frankfurt a. M.: Keller, 1904), 138.

Müller, music dealer in Basel, we learn Schott also traded wind instruments made by other makers, such as the Alexander brothers in Mainz.<sup>16</sup> Apparently, percussion instruments originated elsewhere as well.<sup>17</sup>

### *Manufacturing of Musical Instruments at Schott*

In addition to the publishing house, Schott founded in 1816 a musical instrument factory, probably near their headquarters, at Weihergarten in Mainz. Schott exhibited instruments, made in their three years old workshop, at a trade fair in Frankfurt in 1819.<sup>18</sup> A reviewer praises their excellent brass instruments and their newly invented keyed bugles. He puts Schott's flutes, oboes and clarinets on a par with the best instruments in Vienna. In addition, he praises their bassoons, improved by extra keys, invented by the bassoonist Almenräder. In 1817, Carl Almenräder began to make bassoons in the Schott workshop.<sup>19</sup> In the same year, Schott already produced the double-slide trombone, invented by Gottfried Weber.<sup>20</sup> Both facts are in line with the start of production of musical instruments at Schott in 1816.

16. "Von den Flöthlein von Alexander aus Mainz, schicken Sie mir keine mehr, sie sind alle falsch; ich hebe nicht viel Ehre damit auf." Eva-Maria Duttenhöfer, *Gebrüder Alexander: 200 Jahre Musikinstrumentenbau in Mainz* (Mainz: Schott, 1982), 31.

17. "Wir sind vor kurzem mit einem neuen Transport vorzüglicher gute und grosser, ächter Türkischer Becken versehen worden," *Intelligenzblatt zur Cäcilia*, vol. 2, nr. 5 (1824): 14; "Türkische Becken, deren Echtheit wir verbürgen, und die von uns in grösseren Partien aus der Türkei bezogen werden," *Intelligenzblatt zur Cäcilia*, vol. 21, nr. 82 (1842): 20.

18. "Zur Messe brachte der betriebsame Schott aus Mainz manches Neue, unter Andern den recht brav arrangirten Clavierauszug von Herolds Rosenmädchen. Ich benutze diese Gelegenheit, der Instrumente zu erwähnen, welche die seit drei Jahren errichtete Werkstatt dieses thätigen Mannes bis jetzt geliefert. Die Messing instrumente sind von seltener Vollkommenheit; das neuerfundene Klappenflügelhorn, bey Militärmusik von grosser Wirkung und leicht zu behandeln, entspricht jedem billigen Wunsche; die Flöten, Oboen und Klarinetten sind den besten Wienern gleich zu stellen; die Fagotts sind ins besondere mit einigen, von dem Verdienstvollen Fagottisten Almenröder in Cölln neuerfundenen Klappen, sehr verbessert worden. Gutes Holz und Messing wird von jedem Sachverständigen an diesen Instrumenten erkannt." in *Allgemeine Musikalische Zeitung (AMZ)*, vol. 21 (May 26, 1819): 358–359.

19. "Im Jahr 1817 stellte er dann in der Instrumentenfabrik der Herren Gebrüder Schott in Mainz verschiedene Versuche an, die durch Wiederholen und Verbessern dem beabsichtigten Zwecke immer mehr und mehr entsprachen." Carl Almenräder, *Abhandlung über die Verbesserung des Fagotts Nebst zwei Tabellen PN 1769* (Mainz: Schott, 1822), 2.

20. "... sind meine Doppelposaunen an vielen Orten mehr oder weniger glücklich nachgemacht worden, jedoch meines Wissens nirgendwo so vollkommen gut und mit so vollständiger Benutzung all der Vorzüge, deren sie ihrer Natur nach fähig sind, als

In 1821, Schott published a fingering chart for a bassoon. On the cover we read, "One produces this instrument of perfect quality like also all other instruments of wood and brass at B. Schott fils" (see fig. 16 on p. 123).<sup>21</sup> Already in 1822, Schott published, in French and German, an extensive list offering all their musical instruments (fig. 1):<sup>22</sup>

Directory of instruments produced with diligence, of good materials and at low prices at B. Schott in Mainz.

- Csakan with 1 and 4 keys,
- Flageolets without or with 3 and 4 keys,
- Double flageolets with 7 keys,
- Flutes with 1, 4, 6, 8, and 9 keys,
- Clarinets with 5, 9, 12, and 13 keys, the latter based on Iwan Müller's newest invention,
- Oboes with 2 and 13 keys,
- English horn with 13 keys,
- Basset horn with 14 keys;

These instruments are made of boxwood and ebony with silver and brass keys.

- Bassoons with 9, 10, and 15 keys, the latter based on Carl Almenräder's newest invention,
- Octave contrabassoon with 7 keys,
- Serpent and English bass horn with 6 keys;

These instruments are made of maple wood with brass and ivory keys.

- Simple and inventions horns and trumpets;
- Trumpets with 5 keys,
- Simple and inventions post horns as well as with 4 keys,
- Signal horns and English keyed bugles with 6 keys,
- Bass keyed bugles with 8 keys,
- Bass trumpets,
- Trombones and double-slide trombones, the latter based on G. Weber's newest invention,
- Cymbals, tambourines, triangles, timpani,
- Bass drums and tenor drums,
- Chimes, Chinese bells.

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von den Gebrüdern Schott (grossherzogl. Hof-Musikhandlung in Mainz)." Gottfried Weber, "Über musikalische Instrumente älterer und neuester zeit" in *Wiener AMZ*, vol. 1, no. 31 (July 31, 1817): 262–263.

21. "On Fabrique cet Instrument d'une Qualité parfaite comme aussi tous les autres Instrumens en Bois et en Cuivre Chez B. Schott fils. Editeurs de Musique de la Cour de S.A.R. le grand Duc de Hesse à Mayence," *Gamme de Basson à neuf clefs* (Mainz: Schott, 1821).

22. Carl Almenräder, *Abhandlung* . . .

# Verzeichniß

der Instrumenten  
welche

bei B. Schott Söhnen

in Mainz

mit allem Fleiß und guten Materialien, mit  
höchst billigen Preisen verfertigt werden.

Cornen mit 1 und 4 Klappen, Flageolets ohne und mit 3 und 4 Klappen, doppelte Flageolets mit 7 Klappen, Flöten mit 4, 6, 8 und 9 Klappen, Clarinetten mit 5, 9, 12 und 15 Klappen, weitere nach Jvan Müller's neuester Erfindung, Hoboen mit 2 und 15 Klappen, Englischhorn mit 15 Klappen, Basshorn mit 14 Klappen; diese Instrumenten werden von Buchs und Ebenholz mit silbernen und messingnen Klappen verfertigt. Fagotts mit 9, 10 und 15 Klappen, letztere nach Carl Allmenröder's neuester Erfindung, Octav Contrafagott mit 7 Klappen, Serpent und Englisch Basshorn mit 12 Klappen; diese Instrumente werden von Ebenholz mit messing- und eisenbeinernen Klappen verfertigt. Einfache und Inventionshörner und Trompeten; Trompeten mit 3 Klappen, einfache und Superioma Posthorn, sowie auch mit 4 Klappen, Signalhörner, englische Flügelhörner mit 4 Klappen, Bassflügelhörner mit 3 Klappen, Basstrompeten; Posaunen und doppel Posaunen nach Gottfried Weber's neuester Erfindung, Becken, Tambourins, Triangeln, Pauken, große und Wiertel Trommeln, Glockenspiel, und Schellenlöcher. Andere obigen Instrumenten sind noch alle andere Gegenstände des Musikischen Faches zu haben.

Alle und neue Violinen, Altviolen, Violoncello, Contrabässe, uopollnische, französische, und andere Gitarren, Violon Harfen, Uklen Harfen, Pianoforte, Flügel- und Tafelfürmige von den vorzüglichsten Meistern in Wien und anderswärts verfertigt. Esso, Alt und Violinkästchen, Taschen. Musikpulte pariser Colophonum, russische Nutenpapier-Kontralt, Fagel, Orgeln, Violin und Bassbögen von jeder Sorte, Violinstoge, Seitenhalter, Cortinen, Capo d'astro, für Gitarren, Hoboen und Fagottführer, Klarinettenblättchen, Horn, Trompete und Posaunen, Mundstücke, Stimmgabeln, Klavier- Stimm- Hämmer, achte römische Darmsaiten, und überspannene Saiten von der besten Qualität, für Violinen, Altviolen, Violoncello, Contrabässe Gitarren und Harfen. u. s. w.

## GENRES DES INSTRUMENTS

de Musique  
qui se Fabriquen chez

B. SCHOTT FILS

à Mayence.

Tous ces Instruments sont travaillés avec le plus grand soin et se vendent au plus juste prix.

Cornen avec 1 et 4 Clefs, Flageolets sans clefs et aussi à 3 ou 4 clefs, Flageolets doubles à 7 clefs, Flûtes à 4, 6, 8 et 9 clefs, Clarinettes à 5, 9, 12 et 15 clefs. Les dernières d'après la plus nouvelle invention d'Ivan Müller Hautbois à 2 et 15 clefs, Cors anglais à 15 clefs, Cor de Bassette à 4 clefs, ces Instrumens sont faits de bois de buis ou d'ébène avec clefs en argent ou en cuivre. Des Bassons à 9, 10 et 15 clefs les derniers d'après la plus nouvelle invention de Charles Allmenröder, grand Basson à 7 clefs, Serpent et Cor de Basse anglaise à 6 clefs; ces Instrumens sont faits de bois d'ébène avec clefs en cuivre ou d'ivoire. Cors et Trompettes simples et avec tous les tons, des Trompettes à 5 clefs, Cornets de poste simples et avec tous les tons, Cornets de poste à 4 clefs, Cors de Signal simples et à 6 clefs, Cors de Signal de Basse à 8 clefs, Trompettes de Basse, Trombones, aussi des Trombones à double coulisses, invention de Godefroi Weber. Cymbales, Tambourins, Triangles, grosses Caisses, Caisses roulantes, Timbales, Tambours Militaire, Bonnets chinois. Outre les Instrumens ci dessus, on trouve aussi toute les objets qui ont rapport au genre Musical.

Violons, viols et neufs, des Altos, Violoncelles, Contrebasses, Guitares italiennes, françaises et autres, Harpes à pédales, et à crochets, Pianoforte de toute façon de célèbres Facteurs de Vienne et d'autres, boîtes de Violon, Pupitres portatifs, Colophonum clarifié, Papier rayé, Griffes, Carrillon, Sérinçelles, Des archets de Violon et de Basse de différentes qualités, Chevalets de Violon et de Basse, Tirecordes, Sourdines, Chevilles, Capo d'astro pour Guitares, Anches de Clarinette, de Hautbois, de Basson, et gr. Busson, Diapasons, Marteaux de Clavecin, Embouchures de Cors, Trompettes et Trombones. Des véritables Cordes de nappes, Cordes filées de toute qualité pour Violon, Alto, Violoncelle, Contrebasse, Harpe, Guitare &c.

FIGURE 1. Advertisement by Schott in 1822.

At the end of this list, Schott offers more instruments for sale, like stringed instruments, guitars, harps, pianos, and organs, but also related articles like strings, reeds, mouthpieces, tuning forks, and music paper, apparently not produced in its factory. This shows Schott traded all sorts of musical instruments, like a supermarket of instruments, many made

in its own factory (tables 3–6, table 10, table 12, table 14, table 16), but many made by other makers as well.<sup>23</sup> The company had a network of contractors, sometimes working in combination with Schott's well-equipped workshop.<sup>24</sup> The workforce in the Schott factory consisted mainly of specialized craftsmen, not general instrument makers. Efficient division of labor required each of them to specialize in a particular aspect of the production process, like woodturning, key making or metal drawing, and bending.

In addition, however, Schott did employ a few general instrument makers. In 1826, the bassoon maker Carl Friedrich August Jehring joined the Schott factory, but around 1829, he established his own workshop. Between 1829 and 1831, his nephew Johann Adam Heckel made bassoons in the Schott factory. In 1831, he and Carl Almenröder founded a new company, still supplying bassoons with the Schott brand. From 1824, Carl August Müller made brass instruments at Schott, though in 1827, he started his own workshop, still producing keyed trumpets and horns for Schott until at least 1835.

Next to the romantic picture of an independent instrument maker producing complete instruments in a small workshop, larger-scale production had occurred since the sixteenth century.<sup>25</sup> Herbert Heyde mentions three business models: 1) The “pyramidal business model and manufactory,” in which the owner is a musician or maker who farms out the lower work cycles to contractors but finalizes the instruments himself; 2) The “maker-merchant model,” in which the owner specifies an instrument but the building of complete instruments is outsourced; 3) The “merchant model,” in which the owner is a trader who orders instruments and sells them to his customers.<sup>26</sup> In all cases, instrument makers or traders owned these businesses. Often they placed their own marks on instruments that were at least partly made by others.<sup>27</sup>

23. “Preis-Courant Musikalischer Instrumente welche in vorzüglicher güte bei B. SCHOTT'S SÖHNEN in Mainz verfertigt werden,” *Werbung bei Cäcilia* vol. 4, nr. 16 (1826).

24. Stefaan Verdegem, “Sellner-type Oboes in Vienna and Mainz in the Second Quarter of the Nineteenth Century,” in *The Galpin Society Journal*, vol. 61 (2008): 211.

25. Thanks to James Kopp for pointing me to the relevant literature.

26. Herbert Heyde, “Entrepreneurship in Pre-Industrial Instrument Making,” *Michaelsteiner Konferenzberichte*, vol 72/2 (Augsburg: Wißner Verlag, 2007), 25–64.

27. Herbert Heyde, “Der Holzblasinstrumentenbau in Leipzig in der 2. Hälfte des 18. Jahrhunderts” in *Tibia*, vol. 3 (1987): 482–486.

Schott's approach was closest to the "merchant model," but Schott was a music publisher, not an instrument maker or instrument trader, who established and owned a large factory. Schott considered its sales of sheet music and production of musical instruments to be mutually stimulating. This appears to be a new approach for that time, at least on such a large scale. The music publisher Boosey, established in 1816 in London, started to make musical instruments only in 1851.<sup>28</sup> Both the music publishers Cramer (in London since 1824)<sup>29</sup> and Breitkopf & Härtel (in Leipzig since 1807)<sup>30</sup> made pianos, but they merely traded other musical instruments. In Leipzig, Edition Peters initially sold instruments but never produced them.<sup>31</sup> The publisher Goulding from 1798 in London, had on a smaller scale a similar business model as Schott, i.e., a music publisher producing instruments in its workshop.<sup>32</sup>

Although most instrument makers at Schott were anonymous, their instruments often reveal true craftsmanship. However, the quality was not always good. In a letter to Schott of February 4, 1822, Joseph Küffner criticized Schott's instruments that had been delivered to the second Bavarian Regiment.<sup>33</sup> The brass instruments were excellent, but not all horns were complete. The bassoons were very good, but one key was slow. The flutes were excellent and in tune, but the piccolos were tuned too low. Also, the clarinets in E-flat were tuned too low and the clarinets were missing several keys. Moreover, the boxwood was thin, the bore too

28. William Waterhouse, "Boosey" in *The New Langwill Index* (London: Tony Bingham, 1993), 40.

29. *Ibid.*, "Cramer, J.B.," 74–75.

30. *Ibid.*, "Breitkopf & Härtel," 44.

31. <http://www.edition-peters.com/history>.

32. "The firm of 'Goulding, Phipps & D'Almaine' had traded as 'Military musical instrument makers, music sellers and publishers' at 45 Pall Mall between 1798 and about 1804." James Hogg and Gillian Hughes, *The Collected Letters of James Hogg: 1820–1831* (Edinburgh: Edinburgh University Press, 2004), 492.

33. "Was die Blechinstrumenten betrifft, so sind diese vortrefflich, bey den Horn [sic] fehlen aber die As Bögen, welche sehr nothwendig sind, und 2tens gehören die 2 B Stiften [sic] gar nicht zu den Hörnern. Was die Rohrinstrumente betrifft, so sind die Fagotts auch sehr gut, eine cis Klappe am Fagotte ist lahm. Die Flöthen sind ebenfalls sehr gut und rein. Was die 2 Es Clarinetten betrifft sind diese gegen die B-Clarinetten viel zu tief und sind folglich D Clarinetten - so auch die 2 Piccolo, auch fehlen an den Clarinetten die nöthigsten Klappen . . . Ihren Arbeitern die Reinheit der Clarinetten bestmöglichst anzuempfehlen, 2tens der Buchs ist zu dünne und der Bohrer zu enge, es muß folglich ein zu magerer Ton aus dem Instrument hervorgehen, auch sind die Becher zu klein." Matthias Henke, *Joseph Küffner: Leben und Werk des Würzburger Musikers im Spiegel der Geschichte* (Tutzing: Schneider, 1985), 112–113.



narrow, and the bell too small. Two months later, Küffner mentions that the Regiment had returned Schott's clarinets and that the instrument maker Alexander in Mainz had taken over the delivery.<sup>34</sup>

Joseph Küffner (*b.* Würzburg March 3, 1776; *d.* Würzburg Sept. 9, 1856) was responsible for all military wind music in Bavaria, including training, music, and instruments. He was engaged with the Schott firm from 1811 until his death,<sup>35</sup> and he developed a long-lasting friendship with Johann Joseph Schott, inspired by their mutual interests. On the one hand, Schott published many of Küffner's hundreds of compositions, paying him royalties and spreading his fame. On the other hand, Küffner was responsible for the purchase of the military band instruments in Bavaria that Schott could supply in large quantities. This mutual interest is evident in letters in 1822 in which Küffner claimed to promote Schott's instruments by his brilliant compositions,<sup>36</sup> and that he wanted to prove Schott's instruments the best in Germany<sup>37</sup> as well as persuade all detractors of Schott's instruments.<sup>38</sup>

Many improvements in Schott's instruments are in line with the acoustic principles of Gottfried Weber (see p. 142), whom he knew from their membership of the Committee of the National Theatre.<sup>39</sup> In 1815, Weber wrote a treatise on the acoustics of wind instruments, published in 1816 and 1817.<sup>40</sup> His insights influenced the bassoon improvements, but modifications of oboe and clarinet at Schott were also in line with Weber's theory. Instead of placing the tone holes conveniently for the fingering, Weber promoted acoustically-correct placement of larger tone holes, often covered by key heads and operated by long key levers.

34. Küffner-Schott letter (March 29, 1822). As cited in Eva-Maria Duttenhöfer, 31.

35. Matthias Henke, 78.

36. "Ich werde mich von Zeit zu Zeit bemühen ihrem Instrumenten Lager Absatz zu verschaffen und alles anwenden die Güte ihrer Instrumenten durch brillante Compositionen darzuthun." Küffner-Schott letter (May 13, 1822). As cited in Eva-Maria Duttenhöfer, 31.

37. "Was macht die Hautbois? . . . ich bitte Sie, lassen Sie doch mit der grösten Genauigkeit diese bearbeiten, um unsrer ganzen Kapelle zu beweisen, dass des Herrn Schotts Instrumenten die ersten in Deutschland sind." Küffner-Schott letter 959 (Nov. 26, 1822).

38. "Das Fagott ist herrlich ausgefallen und nach das Probe von 4 handfesten Fagottisten als ein bewährtes und sehr gutes Instrument befunden worden . . . Nun ist mein Triumph gegen alle Feinde ihrer Instrumenten lachend vollendet." *Ibid.*

39. Arno Lemke, *Jacob Gottfried Weber: Leben und Werk* (Mainz: Schott, 1968), 39.

40. Gottfried Weber, "Versuch einer praktischen Akustik der Blasinstrumente," *AMZ*, vol. 18 (1816): 33-44, 49-60, 65-74, and 87-90; Gottfried Weber, "Praktische Resultate aus des Verfassers Akustik der Blasinstrumente," *AMZ*, vol. 19 (1817): 809-814 and 825-830.

Weber was also editor of the journal *Cäcilia*, published by Schott since 1824. Here, he described innovations of musical instruments, sometimes promoting the improved instruments made at Schott.

The Appendix lists known Schott instruments. They will be referenced in the text by their numbers (Nr. 1–Nr. 56). In the following sections, evidence is presented that Schott made the following instruments inside its factory, as well as identifying some people involved:

- Flutes and piccolos
- Oboes, with inventions by Anton Foreit, possibly made by Carl Friedrich August Jehring
- Clarinets based on Iwan Müller's inventions, probably assisted by Theodor Schmidt
- Bassoons invented by Carl Almenräder and made under his supervision by Carl Friedrich August Jehring, and Johann Adam Heckel
- Horns made by Carl August Müller, assisted by Johann Carl Grimm
- Keyed trumpets, bugles, and cornets, made by Carl August Müller
- Double-slide trombones invented by Gottfried Weber
- Ophicleides
- Pianos, under the supervision of Carl Meyer.

While most of the actual work in the factory was done by anonymous craftsmen, the final control and fine-tuning was entrusted to professional musicians.<sup>41</sup> The *New Langwill Index* reveals that in 1828 Schott was assisted by "C. Almenraeder and Grimm, musicians of the duke of Nassau's chapel,"<sup>42</sup> and Anton Foreit helped with fine-tuning of oboes. Thus, several musicians of the court chapel of Nassau in the nearby Biebrich assisted Schott (table 2).<sup>43</sup>

- Carl Almenräder for bassoons,
- Anton Foreit for oboes,
- Carl Grimm for horns,
- Probably Theodor Schmidt for clarinets.

In 1824, Schott took over the piano factory of Heilmann Sohn and started production of grand and upright pianos. The Schott brand appeared two years later for the first time in advertisements for pianos; Schott would pursue piano production until at least 1867.

41. "Die Reinheit beim Abstimmen wird durch die Mitwirkung erprobter Künstler erzielt, weshalb wir dafür vollkommene Versicherung geben können. B. Schott's Söhne Großherzog. Hess. Hofmusik- und Instrumenten-Handlung," *Intelligenzblatt zur Cäcilia*, vol. 1, nr. 3 (1824): 60; "Blasinstrumente von Holz oder Messing mit allen neuen Verbesserungen, wovon die reinste Abstimmung durch mitwirkung anerkannte Künstler erreicht wird," *3rd supplement Cäcilia*, vol. 9, nr. 36 (1828): 9.

42. Waterhouse, "Schott, B. fils," 362.

43. Data from: *Staats- und Adreß handbuch des Herzogthums Nassau* of 1829/30–1842.

TABLE 2. The members of the court chapel of the Duke of Nassau in Biebrich.

	1829/30, 1830/31, 1831/32, 1832/33	1833/34, 1835, 1836, 1837	1838	1839, 1840	1841, 1842
<b>Capellmeister</b>	Christian Rummel	Christian Rummel	Christian Rummel	Christian Rummel	Christian Rummel
<b>Director, Oboe</b>	Anton Foreit	Anton Foreit	Anton Foreit	Anton Foreit	Anton Foreit
<b>Oboe</b>	Joseph Foreit	Joseph Foreit	Joseph Foreit	Joseph Foreit	Joseph Foreit
<b>Oboe, Clarinet</b>	Theodor Schmidt	Theodor Schmidt	Theodor Schmidt	Theodor Schmidt	Theodor Schmidt
<b>Horn</b>	Carl Grimm	Carl Grimm	Carl Grimm	Carl Grimm	Carl Grimm Sr.
<b>Horn</b>	Christian Grimm	Christian Grimm	Christian Grimm	Christian Grimm	Christian Grimm
<b>Horn</b>	Valentin Ripperger	Valentin Ripperger	Valentin Ripperger	Valentin Ripperger	Carl Grimm Jr.
<b>Horn</b>	Johann Ripperger	Carl Thomas		Jacob Meyer	Jacob Meyer
<b>Bassoon</b>	Georg Bachmann	Georg Bachmann	Georg Bachmann	Georg Bachmann	Gabriel Meyer
<b>Clarinet</b>	Joseph Geißler	Joseph Geißler	Joseph Geißler	Joseph Geißler	Heinrich Ott
<b>Contrabassoon</b>	Gottfried Schimack	Gottfried Schimack	Gottfried Schimack	Gottfried Schimack	Gottfried Schimack
<b>Bassoon</b>	Carl Almenräder	Carl Almenräder	Carl Almenräder	Carl Almenräder	Carl Almenräder
<b>Bassoon</b>	August Koch	August Koch	August Koch	August Koch	August Koch
<b>Clarinet</b>					Carl Röhrig

On November 18, 1836, Schott received a silver medal of the trade union of Hesse, "Hessische Gewerbeverein," for its musical instruments (fig. 2).<sup>44</sup> Schott was honored by the additional title "Instrumentenmacher Sr Hoheit des Erbgrössherzogs von Hessen" on December 8, 1838.<sup>45</sup>

In 1839, Gottfried Weber stated that the wind instruments of Schott had a widespread reputation; the excellent valved trumpets and valved horns, and the flutes, oboes, clarinets, and bassoons were made by

44. "Der Unterzeichnete beehrt sich, Ew. Wohlgeboren die silberne Medaille des Gewerbevereins zu übersenden, welche Denselben zur dankbaren Anerkennung Ihrer ausgezeichneten Leistungen in der Verfertigung von musikalischen Instrumenten. . . ." Gottfried Weber, "Ehren Auszeichnungen. Die Instrumentenmanufaktur der Herren B. Schott's Söhne in Mainz," *Cäcilia*, vol. 20, nr. 80 (1839): 266.

45. *Ibid.*, 267; See also the mark on piano Nr. 55, made around 1840.



FIGURE 2. The silver medal of achievement from the “Hessische Gewerbeverein.”

carefully-selected workers.<sup>46</sup> Fétis wrote in 1844 that especially the bassoons of Almenräder and the oboes of Foreit, made in the Schott factory, were praised.<sup>47</sup>

After the death of his brother in 1840, Johann Joseph Schott managed the company, still named “B. Schott’s Söhne,” together with his nephew Franz Philipp Schott (table 1). Although the successful Schott instrument factory employed thirty workers, or *Kunstarbeiter*,<sup>48</sup> it ceased production of wind instruments while continuing the production of pianos, but foremost concentrating on its core business of music publishing and printing.

However, Schott still traded musical instruments in its new retail shop in Mainz under the new name “B. Schott’s Söhne, Hof-Musikalien- und Instrumenten-handlung en detail.”<sup>49</sup> This Schott retail shop was located

46. “Die, aus ihrer damaligen neuen Manufactur hervorgehenden, Blasinstrumente haben schon längst die allgemeinste Anerkennung gefunden und bedürfen unserer Erwähnung längst nicht mehr. Auch sind schon insbesondere ihre verbesserten Blechinstrumente, vorzüglich Ventilhorne und Ventiltrompeten, in diesen Blättern ausführlich analysirt; ihre Holzinstrumente, Flöten, Oboen, Clarinette nach Iwan Müller, Fagotte nach Almenräder, sämmtlich von den sorgfältigsten und glücklich gewähltesten Arbeitern angefertigt.” *Ibid.*, 263.

47. “En 1818, les frères Schott avaient ajouté la fabrication des instruments à leurs opérations de commerce de musique. Parmi les produits de leur fabrique on a cité particulièrement avec éloges les bassons d’Almenraeder, et les hautbois de Foreit.” François-Joseph Fétis, *Biographie universelle des musiciens et bibliographie générale de la musique*, vol. 8 (Bruxelles: Cans et Compagnie, 1844), 137.

48. “Dreißig Kunstarbeiter sind unausgesetzt beschäftigt in dieser Manufaktur. — Damit in Verbindung steht die seit 1779 existirende Hof-Musikalien-Handlung der Herren B. Schott Söhne.” Fritz Baur *Gedenk-buch der vierten jubelfeier der Erfindung der Buchdruckerkunst in Mainz* (Mainz: Seifert’sche Buchdruckerei, 1840), 231.

49. “Mainz, 30. Sept. Die hiesige Musikalien- und Instrumentenhandlung Bernhard Schott Söhne hat nun in unserer Stadt ein zweites Etablissement in der Fust-Straße gegründet, das, wie wir vernehmen, dem Detailhandel gewidmet ist,” *Didaskalia*, (Oct. 4, 1840).

at Fuststrasse Nr. 2 and managed by August Schott, son of Johann Joseph Schott (table 1), until his death in 1856. At least until 1850 this retail shop offered musical instruments.<sup>50</sup> Schott also traded instruments in other countries. For instance, in the Netherlands Schott advertised pianos from its factories in Germany and Belgium, as well as violins, guitars, flutes, clarinets, and all other string and wind instruments.<sup>51</sup> On May 24, 1852, the third Schott brother, Adam Joseph Schott, bandmaster in the guards, registered a design copyright for the "Royal Cambridge Valve Bugle" containing "a section of protective rectangular casing enclosing the base of the valves."<sup>52</sup> Schott probably did not make this instrument since it only imported instruments,<sup>53</sup> and never produced them in London, as far as is known.

### *Maker's Marks on Schott Instruments*

Probably because the Schott factory had a network of contractors, a variety of maker's marks are found. The known maker's marks on woodwinds of Schott in Mainz are:

- "Gebr. Schott / Mainz" / [horizontal curly bracket] (Nrs. 1, 2)
- "B. SCHOTT SÖHNE / IN MAINZ" (Nrs. 8, 27, 36)
- [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel] (Nrs. 4, 7, 9, 10, 11, 15, 16, 20, 26, 28, 29, 30, 32)
- "B. SCHOTT FILS / À MAYENCE" / [wheel] (Nr. 17)
- [wheel] / "B. SCHOTT FILS / À MAYENCE" (Nrs. 22, 23, 24, 35)
- "B. SCHOTT FILS / À MAYENCE" (Nrs. 6, 37)

The marks in figures 3a and 3b do not bear the correct brand name of the Schott company "B. Schott's Söhne" or "B. Schott fils." They are in

50. "Fuststrasse, Eig. Schott, Frz. Aug., Musik- u. Instrumentenhandlung," *Adressbuch der Stadt Mainz* (Mainz: Mehling, 1850).

51. "... dat de Heeren B. SCHOTT ZOONEN, te Mainz, . . . een Depot gevestigd hebben van hun alom bekend FONDS van MUZIEK, en eigen in Duitsland en België gefabriceerde PIANO'S en andere INSTRUMENTEN ..., alsmede VIOLLEN, GUITAREN, FLUITEN, CLARINETTEN en andere gebruikelijke STRIJK- en BLAAS-INSTRUMENTEN," *Rotterdamsche Courant* (Oct. 24, 1843): 4.

52. The National Archives, London. Reference: BT 45/17/3266.

53. "Messrs. Schott & Co., Publishers and Importers of Foreign Music and Instruments, Roman Strings, &c., 89, St James'-street." In an advertisement in *The Musical Times and Singing Class Circular*, vol. 3, no. 58 (London: Musical Times Publications Ltd., 1849): 135.

a)



b)

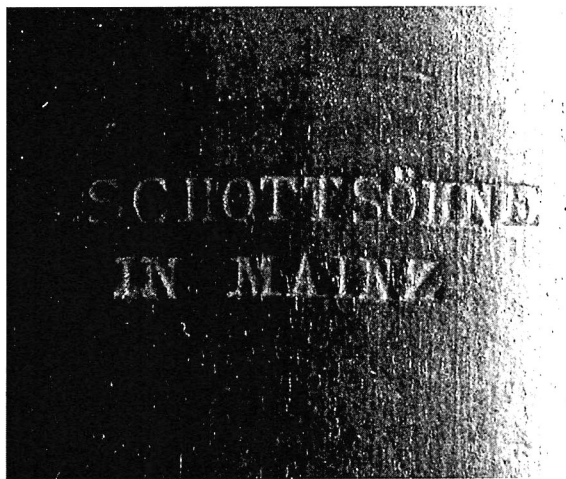


FIGURE 3. Maker's marks on woodwind instruments of Schott in Mainz. a) On flute Nr. 2. Photo by the owner. b) On bassoon Nr. 27.



FIGURE 3. c) On flute Nr. 4. Photos b) and c) by kind permission of the Musical Instruments Museum, Brussels. Photos by the author.

German, not in French and they have a straight lined text, not curved like all other marks on woodwinds. Probably contractors made these instruments for Schott. Perhaps Alexander in Mainz supplied the flutes with the mark in figure 3a to Schott.<sup>54</sup> The instruments with the marks of figure 3b might be made by Carl Friedrich August Jehring, who worked for Schott as an independent craftsman between 1822 and 1826. This is plausible, since these instruments are simpler than later instruments. The oboe (Nr. 8) has the simple mechanism to make the slur-key on the top, the bassoon (Nr. 27, fig. 19a) shows none of the improvements of Almenräder and the contrabassoon (Nr. 36, fig. 19c) has only six keys. The mark in figure 3c was the standard mark on Schott woodwinds.

54. "Von den Flöthlein von Alexander aus Mainz, schicken Sie mir keine mehr, sie sind alle falsch," Eva-Maria Duttenhöfer, 31.

Some instruments do have only one eight-spoked wheel symbol, either above or below the mark, or even none. The eight-spoked wheel symbol was a separate stamp, since alignment varies. Even on the oboe Nr. 8, a faint eight-spoked wheel symbol above the mark is visible. After leaving Schott in 1829, Carl Friedrich August Jehring used the same eight-spoked wheel symbol on some of his instruments: "A. JEHRING / Mainz" / [wheel], but he also used "A. JEHRING / Mainz."

The maker's marks on brass instruments of Schott in Mainz (figs. 4a–d) are:

- "B. Schott Söhne in Mainz" (Nr. 44)
- "Mainz bei B. / Schott's Söhnen" (Nr. 40)
- "B. / SCHOTT FILS / À MAYENCE" (Nr. 49)
- "B. SCHOTT FILS / À MAYENCE" (Nr. 51)
- "Mayence chez les / fils de B. Schott" (Nrs. 41, 42, 43)
- "Majence chez les fils de B. Schott" (Nr. 50)

The variation in these marks clearly suggests several makers but only one can be traced back. The mark "Mayence chez les / fils de B. Schott" in figure 4e was used by Carl August Müller, who made all three known instruments, when working for Schott.<sup>55</sup>

On September 17, 1823, the clarinetist and third son of Peter Bernhard Schott, Adam Joseph Schott (table 1), established a branch of office in Antwerp,<sup>56</sup> in 1825, advertising there as an instrument dealer.<sup>57</sup> There is no evidence Schott actually produced musical instruments in Antwerp, but many wind instruments bear a maker's mark of Schott in Antwerp.<sup>58</sup> These marks on woodwind instruments are (fig. 5).

55. "Die Klappentrompeten Nr. 1839–1841 wurden von P. de Wit um 1893 von Ferdinand August Müller, dem Sohn des Herstellers C.A. Müller in Mainz erworben," Herbert Heyde, *Trompeten, Posaunen, Tuben* vol. 3 (Leipzig: VEB Deutscher Verlag für Musik, 1980), 135.

56. "Adam Josephus Schott moved from Mainz to Antwerp on the 17th of September, 1823, and established himself there in the Eiermarkt." Henry De Groote, "De Antwerpse Boekdrukkunst van 1794 tot 1830," *Bouwstoffen voor de Geschiedenis van Antwerpen in de XIXde eeuw* (Antwerp: Algemene Drukkerijen Lloyd Anversois, 1964), 455–456.

57. "Instrumens de musique, confectionnés par B. Schott fils à Mayence, A Anvers chez A. Schott, Editeur et marchand de musique et d'instruments, Marché aux Oeufs. Sect. 3. No. 638," *Cäcilia*, vol. 3, nr. 9, (June 1825): 16–18 and vol. 4, nr. 11, (Aug. 1825): 26–28.

58. In the description of oboe Nr. 14: "Cet instrument . . . porte la marque Les Fils de B. Schott à Anvers; il est néanmoins de fabrication allemande et originaire de Mayence, où ces facteurs avaient leur manufacture." Victor Mahillon, *Catalogue descriptif et analytique du Musée Instrumental du Conservatoire Royal de musique de Bruxelles*, vol. 4, (Ghent: Hoste, 1912), 192.



a)



b)



FIGURE 4. Maker's marks on brass instruments of Schott in Mainz. a) On bugle Nr. 44 from Bayerisches Nationalmuseum Munich. Photo by Sybe Wartena. b) On horn Nr. 40.

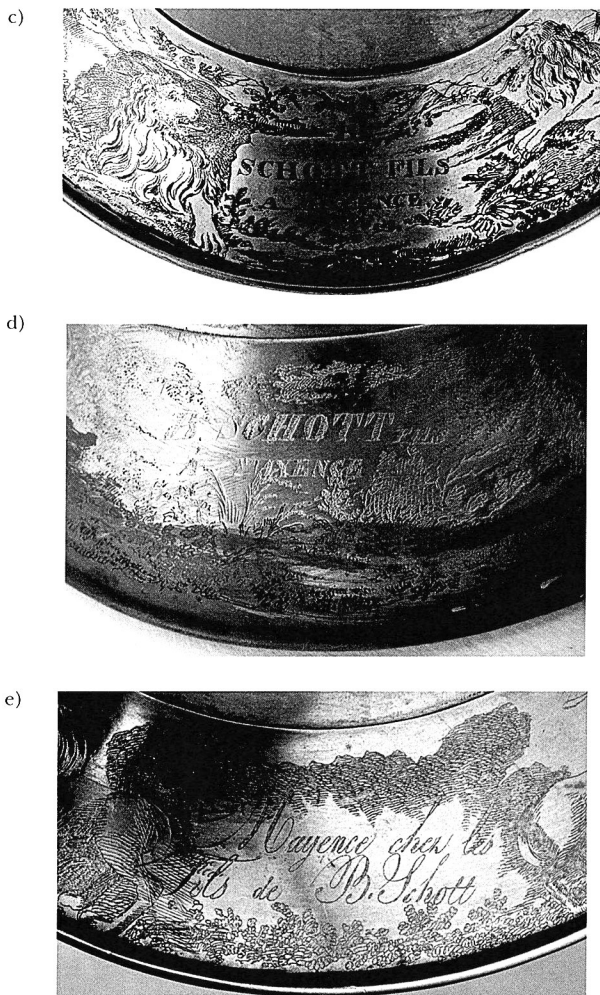
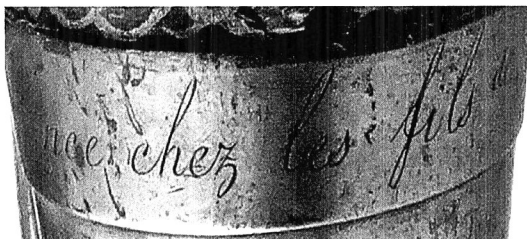


FIGURE 4. c) On trombone Nr. 49 from Musikinstrumenten-Museum Markneukirchen. Photo by Frank Fickelscherer-Faßl. d) On trombone Nr. 51. e) On trumpet Nr. 43 from Museum of Musical Instruments, Leipzig. Photo by Marion Wenzel.

F1-1



F1-2



F1-3

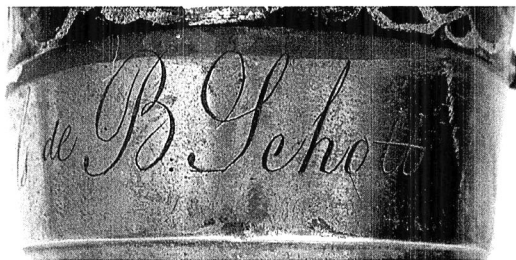
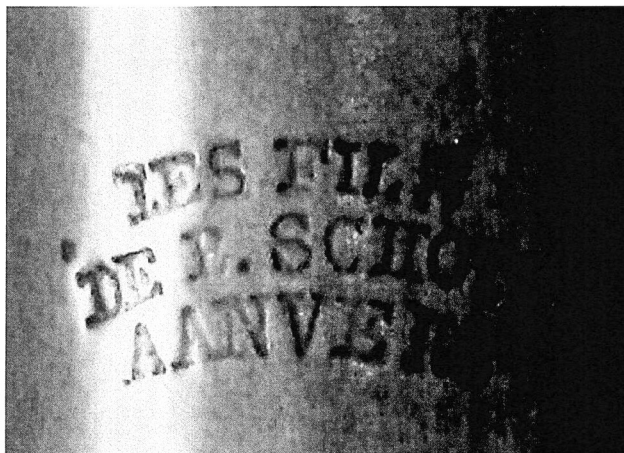


FIGURE 4. f1-3) On trombone Nr. 50. Photos b), d) and f) by kind permission of the Musical Instruments Museum, Brussels. Photos by the author.

a)



b)



FIGURE 5. Maker's marks on the woodwind instruments of Schott in Antwerp. a) On oboe Nr. 14 by kind permission of the Musical Instruments Museum, Brussels. Photo by the author. b) On clarinet Nr. 25 by kind permission of the Vosbergen Museum, Eelde. Photo by the author.

- “LES FILS / DE B. SCHOTT / A ANVERS” (Nrs. 12, 13, 14, 21, 28)
- [wheel] / “LES FILS / DE B. SCHOTT / A ANVERS” (Nr. 25)

The maker's marks on brass instruments of Schott in Antwerp are (fig. 6):

- “Les fils de B. Schott a Anvers” (Nrs. 45, 47)
- “Les fils de B. . . . a Majeince et Anvers” (Nr. 46)

Only on pianos Nrs. 52 and 53, marks of Schott are known with the other branches of Schott,<sup>59</sup> in Paris (1826),<sup>60</sup> in London (1835),<sup>61</sup> in Brussels (1839),<sup>62</sup> in Leipzig (1840), and in Rotterdam (1843),<sup>63</sup> although it traded musical instruments in several of these locations.

### *Instruments Made in the Factory of B. Schott's Söhne*

#### *Flutes and Piccolos of the Schott Brand*

In 1812, Schott sold flutes of Alexander in Mainz. August Müller mentions, “Do not send me any flutes (or piccolos?) of Alexander in Mainz anymore; these are all out of tune.”<sup>64</sup> An early example of flutes with the Schott mark, possibly produced by Alexander in Mainz, is shown in figure 7. Later, Schott produced a wide range of flutes in its own factory (table 3), ranging from piccolos to the csakan shown in figure 8. By 1819, Schott was producing flutes comparable in quality to the best Viennese instruments.<sup>65</sup> In a letter of February 4, 1822, Joseph Küffner discussed the Schott's instruments saying, “The flutes were excellent and in tune, but the piccolos were tuned too low.”<sup>66</sup> In 1839, Gottfried Weber

59. <http://www.Schott-music.com/about/history/show,19718.html>.

60. “. . . bekannt zu machen, dass wir seit dem ersten März d. J. einen Musik-Verlag auch in Paris, unter der Firma: Les fils de B. Schott, à Paris, rue Bourbon, No. 17. errichtet haben,” *Intelligenzblatt zur Cäcilia*, vol. 4, nr. 16 (1826): 41.

61. <http://www.Schott-music.co.uk/shopnav/aboutus/>.

62. *Caecilia: algemeen muzikaal tijdschrift van Nederland*, vol. 19 (Utrecht: Kemink, 1870), 104.

63. *Rotterdamsche Courant* (Oct. 10, 1843): 4.

64. “Von den Flöthlein von Alexander aus Mainz, schicken Sie mir keine mehr, sie sind alle falsch,” Eva-Maria Duttenhöfer, 31.

65. “. . . die Flöten, Oboen und Klarinetten sind den besten Wienern gleich zu stellen,” *AMZ* (May 26, 1819): 358.

66. “Die Flöthen sind ebenfalls sehr gut und rein. Was die 2 Es Clarinetten betrifft sind diese gegen die B-Clarinetten viel zu tief und sind folglich D Clarinetten - so auch die 2 Piccolo.” Matthias Henke, 112–113.

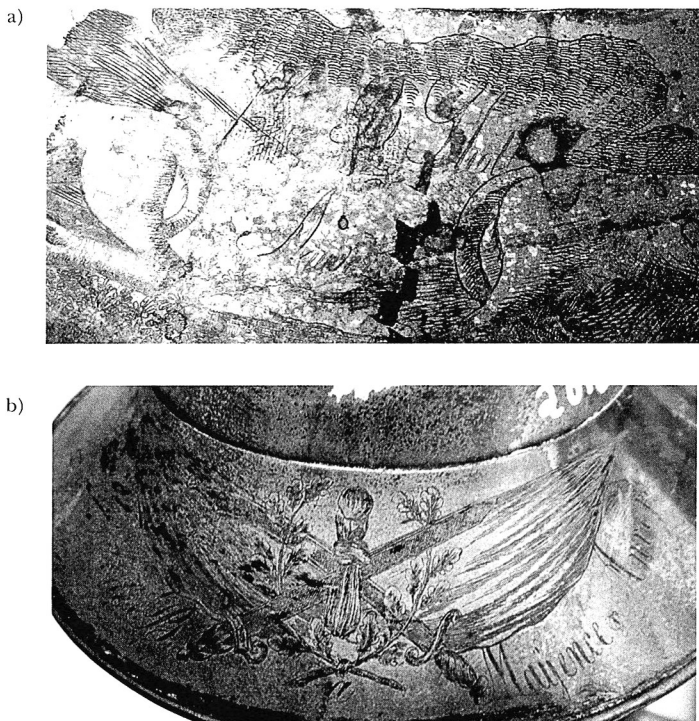


FIGURE 6. Maker's marks on brass instruments of Schott in Antwerp. a) On bugle Nr. 45 and b) On bugle Nr. 46. Both photos by kind permission of the Musical Instruments Museum, Brussels. Photos by the author.



FIGURE 7. A 4-key flute, Nr. 2, possibly made for Schott by Alexander in Mainz. Photo by the owner. (See color photo p. 221.)

TABLE 3: All flutes offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

	Corps de rechange	Type of wood	Type of mounts	Type of keys	Number of keys	Price fl	kr
<b>Piccolos in F, E-flat, or D</b>	1	boxwood	ivory	brass	1	1	36
"	2	"	"	silver	1	3	—
"	1	ebony	"	"	1	2	48
"	2	"	"	"	1	4	12
"	2	"	silver	"	1	8	—
<b>Third flute in F</b>	1	boxwood	horn	brass	1	2	24
"	3	"	"	"	1	4	—
"	3	"	"	"	4	8	—
"	3	"	ivory	"	1	5	—
"	3	"	"	"	4	10	—
"	3	"	"	silver	1	7	—
"	3	"	"	"	4	14	—
"	3	ebony	"	"	1	14	—
"	3	"	"	"	4	22	—
<b>Flutes in D</b>	1	boxwood	none	copper	1	2	24
"	1	"	horn	"	1	2	48
"	3	"	"	"	1	4	48
"	3	"	ivory	"	1	6	—
"	3	"	"	silver	1	8	—
"	3	"	horn	copper	4	9	—
"	3	"	ivory	"	4	12	—
"	3	"	"	silver	4	18	—
"	3	ebony	"	"	1	16	—
"	3	"	"	"	4	30	—
" with tuning slide	1	"	"	"	4	22	—
" " and C-foot	1	boxwood	"	"	8	35	—
" " and B-foot	1	"	"	"	9	40	—
" " and C-foot	1	ebony	"	"	8	44	—
" " and B-foot	1	"	"	"	9	50	—
" " and C-foot	1	blackwood	"	"	8	45	—
" " and B-foot	1	"	"	"	9	52	—
" " and C-foot	1	ebony	silver	"	8	48	—
" " and B-foot	1	"	"	"	9	60	—
" " and C-foot	1	blackwood	"	"	8	50	—
" " and B-foot	1	"	"	"	9	66	—
" " pure silver tuning slide and C-foot	1	ebony	"	"	8	65	—
" " pure silver tuning slide and B-foot	1	"	"	"	9	80	—
<b>Cane flute in D</b>		brown	horn	wood	1	4	—
" black		boxwood	"	silver	1	8	—
<b>Walking stick cane flute</b>		"	"	"	1	7	—
"		ebony	"	"	1	10	—
<b>Flageolet</b>		"	ivory	none	0	2	24
"		"	"	silver	1	5	30
"		"	"	"	3	8	40



FIGURE 8. A 6-key csakan (a duct flute in the shape of a walking stick with a mouthpiece in the handle), Nr. 4. © Musical Instruments Museum, Brussels. (See color photo p. 222.)

mentions the high quality of the Schott flutes.<sup>67</sup> These examples offer proof that flutes were produced by the Schott company, at least between 1819 and 1839, but which specific people were involved remains unclear.

### *Oboes of the Schott Brand*

Along with flutes, the oboes Schott was producing by 1819 were comparable in quality to the best Viennese instruments.<sup>68</sup> Further evidence of in-house oboe production appears in a letter to Schott in 1822, “What about the oboe? Will it be delivered soon? Mr. Reinstein is looking forward to it. I beg you; please have it made with the utmost accuracy.”<sup>69</sup> In 1822, Schott advertised thirteen-key oboes, apparently without additions by Foreit (fig. 1). An article in 1826 describes that oboes are produced at Schott under the eyes of Anton Foreit, applying his inventions,<sup>70</sup> highlighting the advantages of the oboe by Foreit compared to the Viennese Sellner-type oboe: “The octave-key is placed higher, making the e-flat” and e” sound nicer and more in tune. The new c”-sharp key simplifies the b’ – c”-sharp trill in the lower and upper octave. Finally, the c’-key is not left-hand operated, but it is controlled by the right hand.” Figure 9 shows the accompanying fingering chart, including the extra b – c-sharp trill key. This is the fourteenth key mentioned as new invention, “neue Erfindung,” in table 4 (i.e., eleven keys with three double levers for b-flat, e-flat, and f).<sup>71</sup> In

67. Gottfried Weber, “Ehren Auszeichnungen . . .,” 263.

68. “die Flöten, Oboen und Klarinetten sind den besten Wienern gleich zu stellen,” *AMZ* (May 26, 1819): 358.

69. “Was macht die Hautbois? Wird sie bald abgeschickt werden? Reinstein freut sich sehr darauf, ich bitte Sie, lassen Sie doch mit der größten Genauigkeit diese bearbeiten.” Küffner-Schott letter 959, Nov. 26, 1822. Cited by Stefaan Verdegem, 214.

70. “. . . liefern wir in der folgenden Tabelle eine Darstellung der Oboen, welche, nach einer neuerlichen Erfindung des, in mehrer Hinsicht rühmlichst bekannten, vortrefflichen Oboisten, Capelldirectors Foreith, in der aufs trefflichste eingerichteten B. Schottischen Manufactur in Mainz, unter den Augen des Erfinders, angefertigt werden.” In “Nachschrift der Redaktion,” *Cäcilia*, vol. 4, nr. 15 (1826): 222–224.

71. Stefaan Verdegem, 205–216. This article gives all technical details and compares several extant Schott oboes.



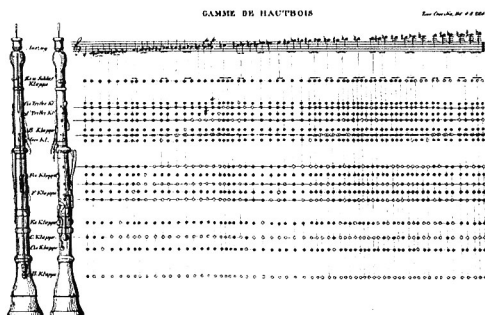


FIGURE 9. A fingering chart of 1826 for the Schott oboe with eleven keys and three double levers.

fact, between 1822 and 1824 Schott started making oboes based on ideas of Foreit, who had lived in Biebrich since 1822. Already in 1824, Schott offered fourteen- and fifteen-key oboes.<sup>72</sup> Joseph Panny, founder of a music school in Mainz, used the potential of the improved oboe by Foreit in 1825 in his Opus 7 “Adagio und Polonaise.”<sup>73</sup> A letter of Joseph Küffner to Schott shows that Anton Foreit tuned all Schott oboes, realizing a strict quality control.<sup>74</sup> Foreit later did the same for Johann Adam Heckel.<sup>75</sup>

All known Schott oboes are of the Viennese style, quite rare in Germany with a strong Dresden tradition.<sup>76</sup> Anton Foreit, trained as oboist in Vienna, probably inspired Schott. Stefaan Verdegem also pro-

72. “Oboen von Buchs und Ebenholz mit 14 und 15 Klappen,” *Intelligenzblatt zur Cäcilia* vol. 1, nr. 3 (July 1824): 59.

73. Gunther Joppig, “Zur Entwicklung des deutschen Fagotts” *Studia Organologica: Festschrift für John Henry van der Meer*, ed. Friedmann Hellwig (Tutzing: Schneider, 1987), 264–265.

74. “Meine gegen-Einwandungen daß H. Foreith gewiß von H. Schott bey Abstimmung dieser Oboe dazu gezogen worden sey, und er als so hoch gestellten Kunstler, gewiß den kleinsten Fehler wurde genugt haben .... helfen nichts.” Küffner-Schott letter 25252, Sep. 26, 1828.

75. “. . . Herr Heckel auch die Fagotte nach der neuen Schule von Almenräder verfertigt hat, und dass er sämtliche Instrumente niemals früher in’s Leben treten lässt, als bis sie durch Prüfungen der Herren Foreith (herzogl. nass. Musikdirector) und Schmitt (herzogl. nass. Hofmusikus) sanctionirt sind.” Carl Gollmick, “Ein Wort über die Verbesserung der Clarinette,” *AMZ*, vol. 47 (1845): 382.

76. Verdegem, 214–215.

TABLE 4. All oboes offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

	Remark	Type of wood	Type of mounts	Type of keys	Number of keys	Price fl	kr
Oboe		boxwood	ivory	brass	2	10	–
„		„	„	silver	2	15	–
„	new invention	„	„	„	14	60	–
„	new invention	ebony	„	„	14	77	–
English horn		boxwood	„	brass	12	44	–

poses Franz Ott and Kaspar Anton Alexander. The oboes in figure 9 and Nrs. 7–14 resemble Koch oboes (fig. 10a). Oboes Nrs. 15–17 look more like Küss oboes (fig. 10b). Schott also produced English horns (fig. 10c).

All Schott oboes bring the slur-key to the front to avoid water in the key hole. In figure 9 and on oboe Nr. 8 and on English horns Nrs. 20 and 21, the key head is mounted directly on a ring, a Dresden-style system (fig. 11a). Oboes Nr. 7 and Nrs. 9–17 have a superior two-axle mechanism (fig. 11b). Stefaan Verdegem noticed that Schott's Koch-style oboes (Nr. 7 and Nrs. 9–14) have the slur-key pointing downwards (fig. 10a, fig. 11b) like Schott clarinets (fig. 15), but unlike the oboes of most contemporaries. Schott's Küss-style oboes (Nrs. 15–17) have the conventional octave-key pointing upward (fig. 10b). In 1839, Gottfried Weber mentioned the high quality of the Schott oboes.<sup>77</sup> Fétis wrote in 1844 that especially the bassoons of Almenräder and the oboes of Foreit were praised.<sup>78</sup> These examples offer proof of oboe production at Schott, at least between 1819 and 1839.

### *People Involved in Oboe Production at Schott*

Anton Foreit (1792–1877) was involved in oboe production at Schott. In 1817, "Vorreith" played oboe in Vienna<sup>79</sup> and "Foreith" was an oboe student.<sup>80</sup> From February 1818 until the end of 1821, he was director of

77. Gottfried Weber, "Ehren Auszeichnungen . . .," 263.

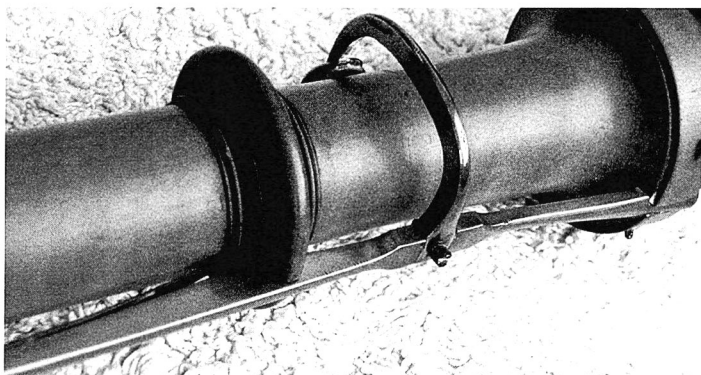
78. François-Joseph Fétis, *Biographie universelle . . .*, 137.

79. "Herrn Vorreith, Mitglied des Orchesters an der Wien," *Morgenblatt für gebildete Leser*, vol. 11 (Wien: Cotta'sche buchhandlung, Apr. 2, 1817): 7.

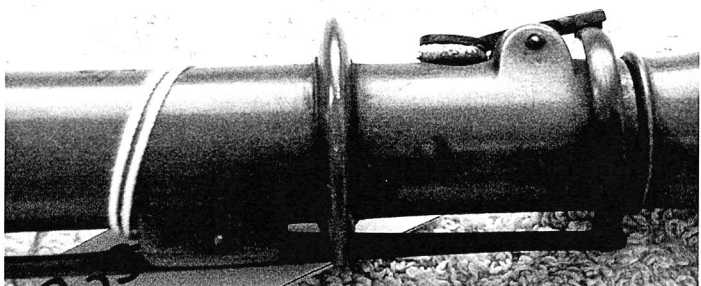
80. "Herr Foreith . . . Dieser junger Künstler besitzt Fertigkeit und Ausdruck, einen schönen Ton, und wird, wenn er mit dem gehörigen Fleiss . . . sein Studium fortsetzt, bald unter die ersten Künstler seiner Zeit zu zählen seyn," *Wiener AMZ*, vol. 1 (1817): 330.



FIGURE 10. The oboe family of Schott. a) A twelve-key Koch-style oboe, Nr. 14. © Musical Instruments Museum, Brussels. b) A fourteen-key Küss-style oboe, Nr. 17 © The Metropolitan Museum of Art. c) A twelve-key English horn, Nr. 21. © Musical Instruments Museum, Brussels. (See color photos p. 223.)



a)



b)

FIGURE 11. Two slur-key systems. a) On English horn Nr. 21 and b) On oboe Nr. 14. Photos by kind permission of the Musical Instruments Museum, Brussels. Photos by the author.

a military band in Austria, “Capellmeister des 49<sup>ten</sup> Linien Infanterie Regiment,”<sup>81</sup> and in 1820, he performed in Mainz.<sup>82</sup> In 1826, Anton

81. “Abschieds Attestat” in Hessisches Hauptstaatsarchiv Wiesbaden, Abt. 130 II Nr. 6705.

82. “dem k. k. österreichischen Kapellmeister Herrn Foreith,” in *Kunst-Blatt*, vol. 14, no 52 (Jun. 29, 1820): 208.

Foreit is described as a well-known, excellent oboist and director of the court orchestra. At Schott, he oversaw the oboe production, based on his inventions.<sup>83</sup> He was director of the court orchestra in Biebrich (table 2), from January 1, 1822 until 1842, when the court orchestra merged with the theatre orchestra in Wiesbaden.<sup>84</sup> Until 1848, he was music director at the Court Theatre in Wiesbaden.<sup>85</sup> He frequently played chamber music concerts, often with colleagues of the court orchestra. Schott published several of Foreit's compositions, mostly light music for guitar and for oboe.

Later, in 1845, Foreit tested instruments, made by Johann Adam Heckel in Biebrich, before delivery.<sup>86</sup> In 1862, he receives a Silver Order of Merit, "Silberne Verdienstkreuz,"<sup>87</sup> from the duke of Nassau. In 1876, the brothers Anton Foreit and Joseph Foreit (table 2) are still mentioned in the address book of Wiesbaden, to which Biebrich belonged. It is conceivable that Carl Friedrich August Jehring, mentioned in the bassoon section, made oboes for Schott, and a tentative mark assignment is suggested for him (fig. 3b) in the section on maker's marks (see p. 103).

### *Clarinets of the Schott Brand*

In 1819, Schott also produced clarinets comparable in quality to the best Viennese ones.<sup>88</sup> The company traded instruments made by others as well, but in 1822 Joseph Küffner made clear distinction between the clarinets made by Schott and those made by Alexander.<sup>89</sup> Beginning in 1822, Schott was among the first to offer clarinets with thirteen keys after Iwan Müller's newest invention (fig. 1). Müller strived for the acoustically correct size and placement of tone holes, and he added keys to avoid forked fingerings, to improve the sound quality, and to enable

83. "Nachschrift der Redaktion," *Cäcilia*, vol. 4, nr. 15 (1826): 222–224.

84. Winfried Schüler, "Herzog und Hof," *Ausstellungskatalog, Herzogtum Nassau 1806–1866*, Wiesbaden 1981, 61.

85. "Anton Foreit (1792–1877). Oboist, von 1842 bis 1848 Hofmusikdirektor und Chordirigent am Hoftheater." Peter Cornelius, *Gesammelte Aufsätze: Gedanken über Musik und Theater, Poesie und Bildende Kunst* (Mainz: Schott, 2004), 111.

86. Carl Gollmick, 382.

87. "Seine Hoheit der Herzog . . . Höchstdieselben haben dem Hofmusikdirektor Foreit zu Wiesbaden das silberne Verdienstkreuz gnädigst verliehen." In *Dienstnachrichten in Verordnungsblatt des Herzogtums Nassau*, vol. 54 (Wiesbaden: Stein, 1862), 50.

88. ". . . die Flöten, Oboen und Klarinetten sind den besten Wienern gleich zu stellen." *AMZ* (May 26, 1819): 358.

89. Matthias Henke, 112–113.

trills. This resulted in larger tone holes in the lower register, correct placement of the a-flat/e"-flat and g'-sharp keys and a new f/c"-key, to replace an open tone hole, placed too high. This f/c"-key is not present on clarinet Nr. 25, but it is available on basset horn Nr. 26. In July and December 1824, Schott advertised clarinets of boxwood or ebony with twelve to eighteen keys,<sup>90</sup> but later never offered clarinets with more than thirteen keys. In 1826 (table 5), Schott offered six-key (fig 12a), nine-key and thirteen-key (fig 12b) clarinets as well as a fourteen-key basset horn (fig 12c). Rendall claims that Schott made bass clarinets,<sup>91</sup> but no proof of this has been found. Gottfried Weber wrote about the clarinet and the basset horn in 1829,<sup>92</sup> showing the fingering charts for a six-key clarinet (fig. 13) and for a nine-key clarinet (fig. 14), and was still praising them as late as 1839.<sup>93</sup> Furthermore, Schilling said, "In particular the excellent Almenräder bassoons and good clarinets are made in this factory."<sup>94</sup>

Figure 15 shows a Schott clarinet and a basset horn that have the speaker key mounted on the front with a ring attached to the thumb lever to open the key head on the front. This was an idea of Jacques François Simiot in Lyon (*b.* Dole April 18, 1769; *d.* Lyon August 28, 1844),<sup>95</sup> quite similar to the octave-key mechanism on Koch-style oboes (fig. 11b). While these factors serve as proof of production of a wide range of clarinets by Schott, at least between 1819 and 1839, one can only speculate about which specific persons may have been involved with the enterprise.

### *People Involved in Clarinet Production at Schott*

Schott was among the first to produce the thirteen-key clarinet as well as bassoons with stuffed pads, both invented by Iwan Müller (*b.* Reval

90. "Clarinette, von Buchs und Ebenholz, mit 12 bis 18 Klappen," *Intelligenzblatt zur Cäcilia* (1824): vol. 1, nr. 3, 60 and vol. 2, nr. 5: 14.

91. Francis Geoffrey Rendall, *The Clarinet, Some Notes on its History and Constitution* (London: Benn, 1971), 143.

92. Gottfried Weber, "Einiges über Clarinett und Bassetthorn," *Cäcilia*, vol. 11, nr. 41 (1829): 35–57.

93. Gottfried Weber, "Ehren Auszeichnungen . . .," 263.

94. "Namentlich werden die vortrefflichen Älmenrädernen Fagotte und gute Clarinetten in jener Fabrik verfertigt." Gustav Schilling, 252.

95. Albert Rice, *The Clarinet in the Classical Period* (Oxford: Oxford University Press, 2003), 65.

TABLE 5. All clarinets offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

	Type of wood	Type of mounts	Type of keys	Number of keys	Price fl kr	
<b>B-flat clarinet</b>	boxwood	horn	brass	6	13	30
"	"	ivory	"	6	16	30
"	"	"	"	9	24	—
<b>„ (new invention)</b>	"	"	"	13	36	—
"	"	"	silver	13	55	—
"	ebony	"	"	13	70	—
<b>B-flat clarinet with A-joint</b>	boxwood	horn	brass	6	16	—
"	"	ivory	"	6	20	—
"	"	"	"	9	30	—
<b>„ (new invention)</b>	"	"	"	13	45	—
"	"	"	silver	13	70	—
"	ebony	"	"	13	100	—
<b>C clarinet</b>	boxwood	horn	brass	6	10	—
"	"	ivory	"	6	13	30
"	"	"	"	9	20	—
<b>„ (new invention)</b>	"	"	"	13	30	—
"	"	"	silver	13	45	—
"	ebony	"	"	13	55	—
<b>E flat clarinet</b>	boxwood	horn	brass	6	10	—
"	"	ivory	"	6	13	30
"	"	"	"	9	20	—
<b>„ (new invention)</b>	"	"	"	13	30	—
"	"	"	silver	13	45	—
"	ebony	"	"	13	55	—
<b>F clarinet</b>	boxwood	horn	brass	6	9	—
"	"	ivory	"	6	11	—
<b>„ extra nice</b>	"	"	"	6	14	—
<b>Basset horn</b>	"	"	"	14	55	—

December 3, 1786; *d. Bückeburg* February 4, 1854).<sup>96</sup> This hints at direct interaction between Schott and Müller, but no hard evidence is found. Maybe the third brother, Adam Joseph Schott, met Iwan Müller when

96. Waterhouse, "Müller, Iwan," 275.



FIGURE 12. The clarinet family of Schott. a) A simple six-key clarinet, Nr. 23. Photo by the author. b) A thirteen-key clarinet with most keys according to Iwan Müller, Nr. 25 by kind permission of the Vosbergen Museum, Eelde. Photo by the author. c) A fourteen-key basset horn, Nr. 26. © Musical Instruments Museum, Brussels. (See color photos p. 224.)

both clarinetists traveled around Europe.<sup>97</sup> In any case, the new key system of Müller was in line with the acoustical theory of Gottfried Weber

97. "Adam Schott, . . . Seine Studien machte er in Würzburg unter Fröhlich's Leitung, und ging dann nach München, um auch Bärmanns Unterricht auf der Klarinette noch zu genießen . . . um auf Reisen noch seine Ausbildung zu vollenden. Er war unter andern in Wien, Paris und London." Gustav Schilling, Supplement Band (1842), 391.



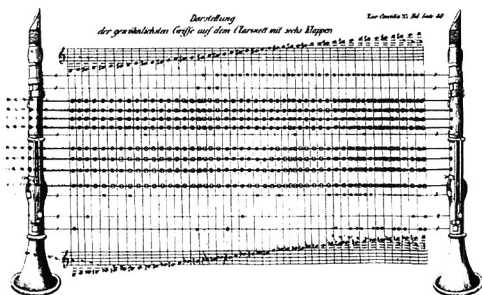


FIGURE 13. Fingering chart of 1829 for a Schott clarinet with six keys.

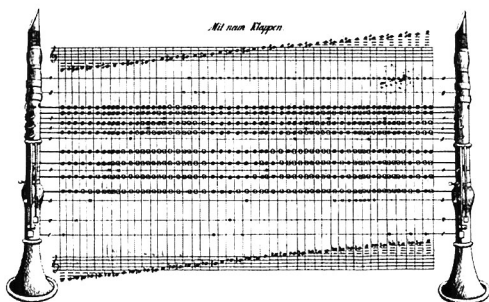


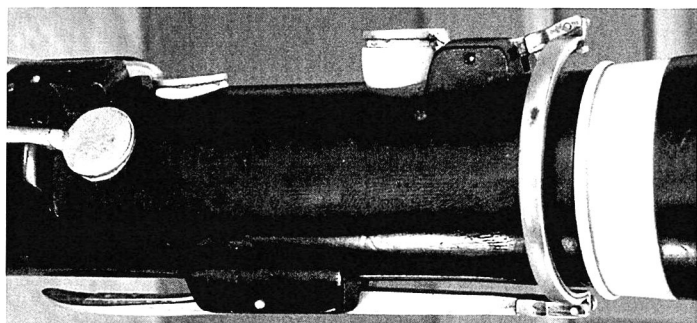
FIGURE 14. Fingering chart of 1829 for a Schott clarinet with nine keys.

(see p. 142). Moreover, in 1816 Weber presented the theoretical background for improvement of the acoustics by Müller's f-key of 1809.<sup>98</sup> Perhaps, then, Weber was the link between Müller and Schott.

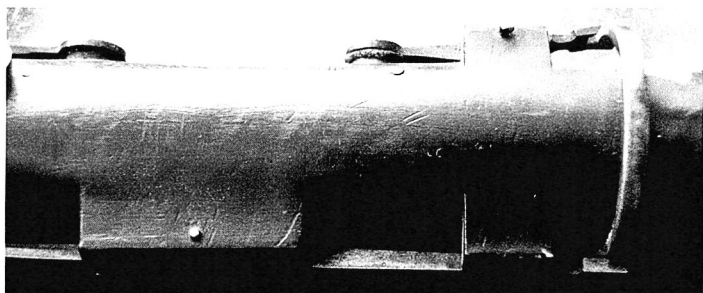
Several musicians of the court chapel in Biebrich (table 2) were involved in instrument production at Schott. It is plausible that the clarinetist Theodor Schmidt (1797–c1873),<sup>99</sup> sometimes spelled Schmitt, assisted with testing and fine-tuning. He had a close relationship with

98. Gottfried Weber, "Versuch einer praktischen Akustik der Blasinstrumente," *AMZ*, vol. 18 (1816): 66.

99. "Theodor Schmidt (1797–um 1873) war seit 1817 beim ersten Nassauischen Regiment als Oboist tätig, wurde 1820 bei der Hofkapelle in Wiesbaden angestellt und 1849 als Klarinetist und Konzertmeister in das Hoftheaterorchester übernommen." Peter Cornelius, *Gesammelte Aufsätze: Gedanken über Musik und Theater, Poesie und Bildende Kunst* (Mainz: Schott, 2004), 108.



a)



b)

FIGURE 15. Speaker key on the front. a) On a clarinet Nr. 25 by kind permission of the Vosbergen Museum, Eelde. Photo by the author. b) On a bass horn Nr. 26 by kind permission of the Musical Instruments Museum, Brussels. Photo by the author.

Anton Foreit, who had helped Schott in this way. In 1845, Schmidt delivered the same service to Johann Adam Heckel, together with Anton Foreit.<sup>100</sup> Perhaps Johann Adam Heckel made clarinets at Schott,<sup>101</sup> but

100. Carl Gollmick, 382.

101. "Heckel, Johann Adam, . . . Ab 1829 in Mainz, trat er in die Instrumentenbau-Abteilung des Verlages B. Schott's Söhne ein und machte hier seine ersten Verbesserungsversuche im Bau von Klarinetten und Fagotten mit dem Fagottisten Karl Almenräder." Hugo Riemann et al., *Riemann Musik Lexikon: Personenteil A-K* (Mainz: Schott, 1959), 757.

at least after 1831 the “Almenräder und Heckel” company produced clarinets and bassoons for Schott.<sup>102</sup>

### *Bassoons of the Schott Brand*

In 1816, Carl Almenräder met Jacob Gottfried Weber in Mainz. Weber’s theory of acoustics intrigued him, but he realized that an actual bassoon might behave differently. Weber and Schott were both members of the Committee of the National Theatre, and Weber likely helped Almenräder gain access to Schott’s well-equipped workshop.<sup>103</sup> Almenräder began in 1817 to create experimental bassoons based on Weber’s insights, made by the skilled craftsmen at Schott.<sup>104</sup> By 1819, Schott was exhibiting its improved bassoons with keys added by Almenräder.<sup>105</sup> From 1819 until 1822, Carl Almenräder left Mainz to live and work in Köln. In that period, Schott published a fingering chart for a nine-key bassoon without improvements by Almenräder, claiming that it had produced this instrument (fig. 16).<sup>106</sup>

In 1822, Carl Almenräder returned to the Mainz area as first bassoonist in the court orchestra in Biebrich (table 2). This enabled him to do further experiments in the nearby Schott factory. Later that year, Schott published Almenräder’s treatise on a fifteen-key bassoon with details of

102. “. . . am 11. März 1831 konnte die Instrumentenfabrik Almenräder und Heckel, . . . ihre Tore öffnen. In der Hauptsache verfertigten die neuen Geschäftsinhaber Fagotte und Klarinetten und bauten während der ersten Jahre auch noch Instrumente für die Firma B. Schott & Söhne.“ Dieter Krickeberg, *Musikinstrumente in Einzeldarstellungen* vol. 2 (München: Deutscher Taschenbuch Verlag, 1982), 203; In 1842, Heckel supplies a clarinet to the Theater Orchestra in Wiesbaden: Hessisches Hauptstaatsarchiv Wiesbaden, Abt. 130 II Nr. 2661.

103. “. . . der schon früher, auf Webers Antrieb, in der Officin der, dergleichen Unternehmen stets mit großer Bereitwilligkeit und gute unterstützenden, Gebrüder Schott zu Mainz eingerichteten Fagottfabrik.” Gustav Schilling, vol. 1 (1838), 158–159.

104. “Hr. Almenräder hat nach und nach mehrere Fagotte in der Offizin der Herren B. Schott’s Sohne in Mainz anfertigen lassen, und sie, durch die Geschicklichkeit und Sorgfalt der hier angestellten trefflichen Arbeiter, nachgerade auf eine in der That bewundernswerthe Stufe von Vollkommenheit gebracht.” Gottfried Weber, *Cäcilia*, vol. 2, nr. 6 (1825): 138.

105. “. . . die Fagotts sind ins besondere mit einigen, von dem Verdienstvollen Fagottisten Almenröder in Cölln neuerfundenen Klappen, sehr verbessert worden.” *AMZ* (May 26, 1819): 358–359.

106. *Gamme de Basson à neuf Clefs* PN 1580 (Mainz: Schott, 1821). Reproduced in *Larigot, Bulletin de l’Association des Collectionneurs d’Instruiments à Vent*, no. 44 (2009): 29–30.

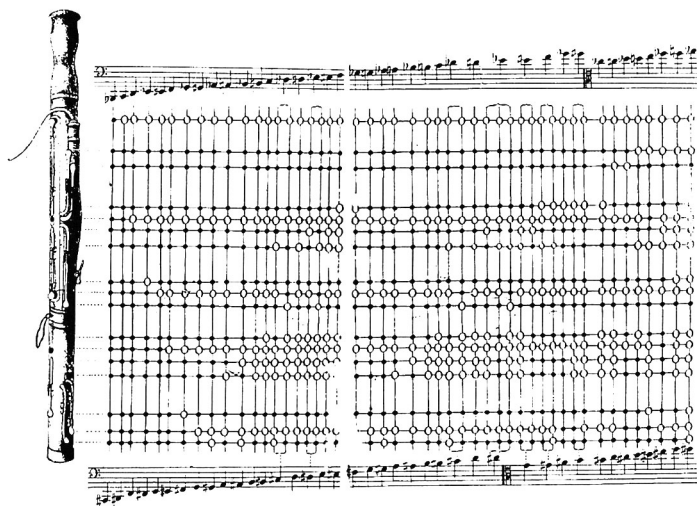


FIGURE 16. Fingering chart for a bassoon with nine keys, published in 1821 by Schott.

the key system (fig. 17) and a fingering chart (fig. 18).<sup>107</sup> Almenräder highlighted the key pads made of gut and filled with wool,<sup>108</sup> as invented in 1812 by Iwan Müller, and Schott advertised its fifteen-key bassoons with Almenräder's inventions (fig. 1). Schott offered similar bassoons in 1826 (table 6).

Figure 17 illustrates Almenräder's improvements as published in his treatise. The *c'*-sharp key "a" in Almenräder's "Fig 1" is replaced on the other side of the (elongated) wing by the longer key "b" with a larger key hole. This avoids water in the key hole and it improves the sound quality. On the butt, the third finger hole is split into two separate holes farther down, served by one key, "c" in "Fig 2." These two holes lead at "a" into the narrow bore and at "b" into the wider bore, the latter serving as a resonance hole, enabling in-tune octaves and full equalization of sound

107. Carl Almenräder, *Abhandlung* . . .

108. ". . . so werden die Klappen desselben nicht wie bisher durch Verledern zum Schliessen gebracht, sondern zu dem Ende mit platten Bällchen unterlegt, die aus Darmhaut verfertigt und mit Schafwolle ausgefüllt sind." *Ibid.*, 5.

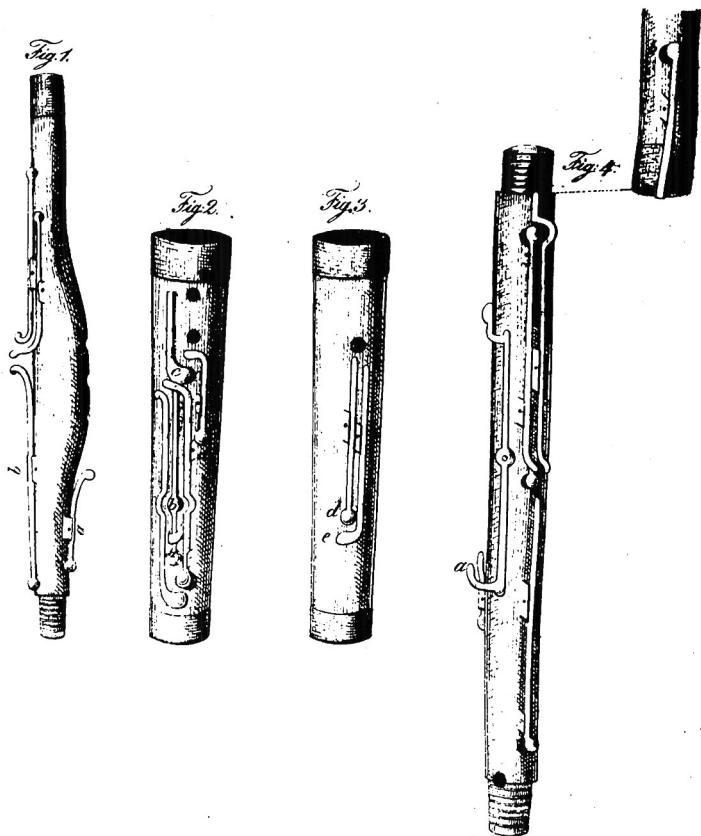


FIGURE 17. Details of Almenröder's new key mechanism, as published in his treatise of 1822.

from the lower A to F. Besides this, one can close the top hole to obtain a pure E. A new a/b-flat trill key "d" was added on the butt, and at the opposite side, the g-sharp key "e" close to the f-sharp key "d" in "Fig. 3" enables an in-tune g-sharp and allows slurring between f-sharp and g-sharp, impossible on ordinary bassoons. To make the low c-sharp possi-

The image displays a detailed fingering chart for a fifteen-key bassoon. On the left, a side-view illustration of the instrument is shown with a grid of horizontal lines across its body, where small symbols indicate the placement of fingers for various notes. On the right, a top-down view labeled 'TABELL. E. I.' shows a similar grid with more complex symbols, including diamonds and crosses, representing specific fingering techniques. Musical notation is included at the top and bottom of the chart, providing a context for the instrument's range and the specific notes being addressed by the fingering chart.

FIGURE 18. Fingering chart for Almenröder's fifteen-key bassoon, as published in 1822.

ble, a new key, "a" in "Fig. 4," is mounted on the long joint. The Contra-B, missing on ordinary bassoons, is enabled by the former B-flat key, moved high onto the bell where its open key, "b" makes the low notes C through F stronger and more pleasant-sounding. Almenröder implemented several additional improvements, like widening of the bore, often inspired by the acoustic insights of Gottfried Weber.

In a letter of February 4, 1822, Joseph Küffner discussed instruments delivered by Schott, "the bassoons are very good, although one c-sharp key is weak."<sup>109</sup> In the same year, he praised a new bassoon made at Schott.<sup>110</sup> In 1825, Joseph Panny already used the new possibilities of the Almenröder bassoon in Opus 7, "Adagio und Polonaise."<sup>111</sup> Gottfried Weber wrote a review in 1826 of compositions for bassoon by Carl Almenröder, again praising the improvements in Almenröder's treatise.

109. "... so sind die Fagotts auch sehr gut, eine cis Klappe am Fagotte ist lahm." Matthias Henke, 112.

110. "Das Fagott ist herrlich ausgefallen und nach das Probe von 4 handfesten Fagottisten als ein bewährtes und sehr gutes Instrument befunden worden." Küffner-Schott letter 959 Nov. 26, 1822.

111. Gunther Joppig, 264–265.

TABLE 6. All bassoons offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

		Type of wood	Type of mounts	Type of keys	Number of keys	Price fl	kr
Serpent, bassoon shaped		maple	brass	brass	6	45	–
„ with dragon head		„	„	„	6	55	–
Contrabassoon		„	„	„	9	66	–
Bassoon: 1 wing, 1 crook		„	„	„	10	30	–
2 wings, 2 crooks		„	„	„	10	36	–
2 wings, 2 crooks	new invention	„	„	„	15	66	–
2 wings, 2 crooks	„	„	silver	ivory	15	130	–

In a note below this review, Schott once more advertised its new bassoons.<sup>112</sup> The next year, Almenräder claimed Schott produced his bassoons and that existing bassoons could be refurbished to the Almenräder system.<sup>113</sup>

Carl Almenräder was for the first time formally employed by Schott in 1824.<sup>114</sup> He supervised the production of bassoons based on his own designs. In Mainz he discovered the privately working bassoon maker Carl Friedrich August Jehring, an accurate craftsman, who understood his ideas. Between 1822 and 1831, Jehring assisted Almenräder in making bassoons (fig. 19a, fig. 19b) and contrabassoons (fig. 19c), stamped with the brand of Schott. Jehring formally joined the Schott factory as a bassoon maker in 1826, and around 1829 he left Schott to start his own workshop in Mainz to make bassoons under his own brand, still assisted by Almenräder.<sup>115</sup>

Johann Adam Heckel came from Adorf to Mainz in 1829 to work at Schott as an instrument maker. He trained under his uncle Carl Friedrich August Jehring at Schott, where he met Carl Almenräder. Their cooperation was quite positive, since on March 11, 1831 they set up a bassoon workshop in the nearby Biebrich, "Almenräder und

112. "In der B. Schottischen Instrumenten-Manufactur in Mainz werden solche Fagotte unter Hrn. Almenrädere Aufsicht und nach seiner Anleitung mit grösster Genauigkeit angefertigt, im Preise von 66 fl. bis zu 130 fl." *Cäcilia* vol. 4, nr. 13 (1826): 117.

113. "Dass sie, nach des Erfinders Anleitung und unter seiner eigenen Aufsicht, in der B. Schottischen Instrumentenmanufaktur in Mainz, mit grösster Genauigkeit, sowohl neu angefertigt, als auch bereits gebrauchte Fagotte nach Almenrädere Art eingerichtet werden." *Cäcilia* vol. 7, nr. 27 (1827): 186.

114. "Karl Almenräder (1786–1843)....., der seit 1824 mit Schott in geschäftlicher Verbindung stand." Dieter Krickeberg, 203.

115. Will Jansen, *The Bassoon, its History, Construction, Makers, Players and Music* (Buren: Frits Knuf, 1978), 408.



FIGURE 19. The bassoon family of Schott. a) A bassoon without Almenröder's improvements, Nr. 27. © Musical Instruments Museum, Brussels. b1–2) A bassoon with Almenröder's improvements, Nr. 32. Germanisches Nationalmuseum, Nürnberg. Photo by Günther Kühnel. c) A six-key contrabassoon, Nr. 36. © Musical Instruments Museum, Brussels. (See color photos p. 225.)

Heckel." They produced clarinets and bassoons, some of them under the Schott brand.<sup>116</sup> Almenröder stayed employed at Schott as corrector,

116. Dieter Krickeberg, 203.



fine tuner, and supplier of reeds (known from accounts in the Schott archives). The steel stamp, “B. SCHOTT FILS / À MAYENCE,” used to mark the bassoons, is still in possession of the Heckel archive.<sup>117</sup> It appears Schott ceased the production of bassoons in 1831 and allowed Heckel to use the stamps. In 1838, Heckel and Almenräder split up after quarrels, but Heckel still made bassoons for Schott.

In 1825, Gottfried Weber described Almenräder’s improvements of the bassoon to date,<sup>118</sup> reusing the pictures (fig. 17) from Almenräder’s *Abhandlung*, and in 1828 he published some of Almenräder’s further enhancements.<sup>119</sup> James Kopp recently published a complete overview, discussing all details of Almenräder’s consecutive improvements.<sup>120</sup> Actually, the bassoons of Almenräder were quite popular and Schott was unable to supply all bassoons ordered—even after several requests, the company did not send a bassoon to Ludwig van Beethoven, certainly an important composer for Schott.<sup>121</sup> In 1834, Fétis mentioned that Almenräder’s bassoons were sold in Germany, Holland, and Belgium.<sup>122</sup> Schilling wrote in 1838, “In particular the excellent Almenräder bassoons and good clarinets are made in this factory.”<sup>123</sup> In 1839, Gottfried Weber mentioned the high quality of the Schott bassoons.<sup>124</sup> Fétis in 1844 praised especially the bassoons of Almenräder and the oboes of Foreit, made in the Schott factory.<sup>125</sup>

Schott produced bassoons at least between 1819 and 1831. Between 1824 and 1831, Carl Almenräder was responsible for bassoon production. In about 1826–1829, Carl Friedrich August Jehring was bassoon maker in the Schott factory and Johann Adam Heckel in 1829–1831. After that time, Schott did not produce bassoons, but it traded bassoons produced in the independent workshops of former employees.

117. “Übrigens fertigte mein Großvater in den ersten Jahren seiner Selbständigkeit noch Fagotte für Schott’s und versah sie mit deren Namen; ein Stahlstempel lautend ‘B. Schott fils’ wird heute noch in unserem Archiv verwahrt.” Wilhelm Hermann Heckel, *Der Fagott* (Biebrich: Heckel, 1931), 15.

118. Gottfried Weber, “Wesentliche Verbesserungen des Fagottes,” *Cäcilia*, vol. 2, nr. 6 (1825): 123–140.

119. Gottfried Weber, “C. Almenräder’s weitere Fagott-Verbesserung,” *Cäcilia*, vol. 9, nr. 34 (1828): 128–130.

120. James B. Kopp *The Bassoon* (New Haven: Yale University Press, 2012), 115–120.

121. “. . . Ludwig van Beethoven (1770–1827), der sich von Schott ein solches verbessertes Fagott erbat: ‘Ich ersuche Sie wiederholt, mir doch gütigst ein Exemplar von den verbesserten Fagotten zuzuschicken.’” Gunther Joppig, 264.

122. François-Joseph Fétis, *Gazette Musicale de la Belgique* (May 15, 1834).

123. Gustav Schilling, 252.

124. Gottfried Weber, “Ehren Auszeichnungen . . .,” 263.

125. François-Joseph Fétis *Biographie universelle* . . ., 137.

### *People Involved in Bassoon Production at Schott*

As described above, four persons were crucial for bassoon production at Schott: Gottfried Weber, Carl Wilhelm Almenröder, Carl Friedrich August Jehring, and Johann Adam Heckel. The life of Gottfried Weber is discussed on pages 142–146.

**Carl Wilhelm Almenröder** was the oldest of eight children of the school-teacher Johann Konrad Almenröder and Johanna Maria Kohl. He taught himself to play the flute, piano, and horn. At the age of thirteen, he got his first worn-out bassoon.<sup>126</sup> Although he was autodidact, he soon replaced the bassoonist in the Eberfelder Symphony Orchestra. From the money he earned there, he bought a better instrument and became a solo-bassoonist.<sup>127</sup> In 1808, he relocated with his father to Köln, where he played the bassoon in an orchestra. Together with his father and his brothers (table 7)<sup>128</sup> he founded the “Musikalische Gesellschaft” in Köln in 1812. From 1812–1814, he was principal bassoonist in the famous theatre orchestra in Frankfurt. Then he relocated a few times, forced by the bad economic situation caused by the war. Finally, in 1815 and 1816, he became a military bandmaster in Köln and Mainz,<sup>129</sup> respectively. In 1816, he married Helena Camphausen and they had eleven children between 1817 and 1834. In 1817, he left the army to become first bassoonist in the theatre orchestra in Mainz, where Gottfried Weber was the director. Based on Weber’s acoustic theories, he created experimental bassoons in the workshop of Schott in 1817–1819.

The decline of the theatre in Mainz forced Almenröder to return to Köln in 1819, where he taught music and played concerts. He also made thirteen flutes and seven clarinets in the workshop of his brothers, “Gebrüder Almenröder, Musikalien- und Instrumentenhändler,” at Schildergasse 26 in Köln.<sup>130</sup> His weakening health forced him to stop instrument making, and on October 1, 1822 he became first bassoonist in the court orchestra in Biebrich (table 2).<sup>131</sup> He resumed experiments in

126. Karl Gustav Fellerer, *Rheinische Musiker* (Köln: Arno Volk, 1960) 1–4.

127. Christian Rummel, “Nekrolog” in *Cäcilia*, vol. 23, nr. 90 (1844): 136–138.

128. A rich source of information on Carl Almenröder is: Julia Rosemeyer “Carl Almenröder (1786–1843). Biografie und Vokalwerke eines mittelrheinischen Musikers,” in *Mitteilungen der Arbeitsgemeinschaft für mittelrheinische Musikgeschichte* vol. 76/77 (Mainz: Arbeitsgemeinschaft für Mittelrheinische Musikgeschichte, 2003), 317–358.

129. *Ibid.*

130. Schilling, vol. 1 (1838), 158–159.

131. Julia Rosemeyer, 319.

TABLE 7. Part of the Almenröder family tree. Instrument makers are printed in bold.

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Johann Konrad Almenröder (Radevormwald Feb 8, 1764 – Köln Aug 11, 1844)  
 x Johanna Maria Kohl (Gräfrath 1758 – Köln Dec 24, 1826)  
**Carl Wilhelm Almenröder** (Ronsdorf Oct 3, 1786 – Biebrich Sep 14, 1843)  
 x (Krefeld Nov 14, 1816) Helena Camphausen (Krefeld Sep 7, 1796 –  
 Wiesbaden May 15, 1848)  
**Ludwig Almenröder** (Mainz Jan 22, 1820 – ????)  
**Johann Heinrich Almenröder** (Ronsdorf Jan 15, 1790 – Köln Jun 21, 1824)  
 x Anna Magdalena Mays  
**Johann Jakob Almenröder** (Ronsdorf Jul 23, 1792 – Köln Jun 15, 1867)  
 x (Köln Aug 16, 1825) Maria Christine Brabender (1801 – Mar 18, 1873)

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the nearby Schott workshop, and Schott published his famous treatise. He was formally employed for the first time at Schott in 1824.<sup>132</sup> In addition to his activities at Schott and as bassoonist, Almenröder was also a composer. In 1829, Schott published his detailed article on the maintenance of bassoon reeds,<sup>133</sup> and Johann Adam Heckel joined the Schott Company. On March 11, 1831, Heckel and Almenröder set up their own company, “Almenröder und Heckel.” Almenröder wrote a detailed article in 1835 on tone holes of wind instruments, explaining “double venting,” though it was not published until 1837.<sup>134</sup> In 1838 Almenröder left “Almenröder und Heckel” after quarrels with Heckel, who continued the workshop on his own.<sup>135</sup>

During his last years, Carl Almenröder developed severe headaches and he suffered several neural strokes. At the end of 1842, he retired as bassoonist and his eldest son, Ludwig Almenröder,<sup>136</sup> succeeded him in the Hofkapelle (table 2). Under his guidance, bassoons were still produced, based on the ideas of his father, and sometimes sold via Schott.<sup>137</sup>

132. Dieter Krickeberg, 203.

133. Carl Almenröder, “Ueber die Erhaltung der Fagottrohre, für Fagottisten sowohl, als auch für Oboisten und Clarinetisten,” *Cäcilia* vol. 11, nr. 58 (1829): 58–62.

134. Carl Almenröder, “Bemerkungen über Blasinstrumente mit Tonlöchern insbesondere die Doppellöcher am Fagott,” *Cecilia* vol. 19, nr. 74 (1837): 77–87.

135. “Michael Nagy fand im Rahmen seiner Forschungen im Archiv von Schott Briefe Almenröders aus dem Jahre 1838, die nur den Schluß zulassen, daß die beiden Geschäftspartner sich getrennt hatten.” Gunther Joppig, 266. See also: Waterhouse, 6.

136. Julia Rosemeyer, 344.

137. “Im Jahre 1842 klagte er über Kopfübel, wonach er mehrere Nerven-Schlaganfälle bekam. In demselben Jahre geruhten Se. Durchlaucht der Herzog von Nassau, ihn in Folge einer Krankheit in Ruhestand zu versetzen. Im Jahre 1843 wurde

Just before Almenräder's death, Schott published his famous bassoon school for a seventeen-key instrument.<sup>138</sup>

**Carl Friedrich August Jehring** was a son of the well-known maker of woodwinds, Johann Nicolai Jehring, and Christiana Friedricke Heckel, also originating from a famous woodwind maker's family (table 8). He studied instrument making in Adorf, probably trained by his father.<sup>139</sup> For unknown reasons<sup>140</sup> he came in 1822 to Mainz as an instrument maker, where he worked for Schott. In that year, he married Anna Maria Thekla Schade, daughter of a wool merchant.<sup>141</sup> The couple had four children.

Carl Friedrich August Jehring was a precise and capable craftsman, who made some of his bassoons in close interaction with Carl Almenräder, implementing his ideas. In 1826, he formally joined the Schott factory.<sup>142</sup> From 1829–1831 he trained his nephew, Johann Adam Heckel, at Schott. Between 1825 and 1830, he lived at Weihergarten Nr. 3, close to the Schott instrument factory.<sup>143</sup> Around 1829, probably urged by his worsening health, he left Schott and he founded his own workshop in Mainz at Stephansgasse Nr. 9, a house owned by his wife's family.<sup>144</sup> There he continued making Almenräder style bassoons, still supervised by Almenräder, but with his own modifications.<sup>145</sup>

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er immer kranker: die Schlaganfälle wiederholten sich öfters, und er erlag einem derselben am 14. September, nach vorhergegangenen langen Leiden. Er hinterlässt eine Gattin und eine zahlreiche Familie, wovon der älteste Sohn seinen Vater in der Hofkapelle ersetzt. Derselbe hat alles Wissen seines Vaters sich eigen gemacht, und unter seiner Leitung werden noch alle Fagotte, welche durch Vermittlung der Herren B. Schott's Söhne in Mainz oder bei ihm selbst bestellt werden, nach der Erfindung seines sel. Vaters auf das vorzüglichste angefertigt und rein abgestimmt, so wie auch die durch Almenräder berühmt gewordenen Fagott-Röhre fort während geliefert." Christian Rummel, 138.

138. Carl Almenräder, *Die Kunst des Fagottblasens oder Vollständige theoretisch praktische Fagottschule* PN 6783 (Mainz: Schott, 1843).

139. Will Jansen, 407–408.

140. His first son, Joannes Kilianus Jehring (*b.* Mainz May 23, 1822; *d.* >1870), was born four months before his marriage. Maybe a forced marriage made Jehring relocate to Mainz?

141. Will Jansen, 407–408.

142. *Ibid.*, 529.

143. "Jehring, Friedr. Karl Aug., Instrumentenmacher, F. 380" A. Kuchler, *Der Wegweiser der Stadt Mainz* (Mainz: Wirth, 1830), 27.

144. "Stephansgasse. (Hohl). Jehring, Aug. Musik. Instrumtm., Eig. – Schade, Kar., Wb u. Kilian Kleinhdh." *Ibid.* (1833), 83.

145. Will Jansen, 408.

TABLE 8. Part of the Jehring family tree. Instrument makers are printed in bold.

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**Johannes Jehring** (Oberhammer Apr 7, 1744 – Adorf Jan 23, 1825)  
 x (Sep 28, 1764) Margaretha Catharina Egelkraut (May 19, 1742 –  
 Siebenbrunn May 16, 1788)  
**Johann Nicolaus Jehring** (Regnitzlosau Aug 18, 1765 – Markneukirchen  
 Nov 14, 1824)  
 x (Landwüst Apr 10, 1788) Susanna Elisabeth Roth  
**Johann Nicolai Jehring** (May 21, 1769 – Adorf Jan 21, 1809)  
 x (Feb 8, 1792) Cristiana Friedericka Heckel  
**Carl Friedrich August Jehring** (Adorf Jan 27, 1798 – Mainz Feb 26, 1837)  
 x (Mainz Sep 28, 1822) Anna Maria Thekla Schade (Mainz Oct 4, 1799 –  
 >1836)  
**Christian Gottlob Jehring** (Adorf Dec 15, 1801 – Adorf Jul 31, 1865)  
 x (Jul 12, 1826) Johanne Henriette Rudert  
**Adam Gottlieb Jehring** (Adorf Mar 3, 1836 – Adorf Sep 24, 1876)  
**Eduard Louis Jehring** (Adorf Jul 7, 1841 – Leipzig >1893)

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**Johann Adam Heckel** was the son of the baker Johann Adam Heckel and Rosina Margarete Seiler. He trained in Adorf, where many members of his family were instrument makers (table 9).<sup>146</sup> In 1829, he came to Mainz as an instrument maker at Schott, probably inspired by his uncle Carl Friedrich August Jehring, who trained him at Schott. Here he met Carl Almenräder, with whom he set up a new bassoon workshop, “Almenräder und Heckel” in Biebrich, on March 11, 1831.<sup>147</sup> As a particularly talented instrument maker, the young Johann Adam Heckel (eighteen years old) was the ideal partner to realize the advanced ideas of Carl Almenräder (forty-four years old).

In 1837, Johann Adam Heckel married Elisabeth Steinhauer, and they had one son, Wilhelm Heckel. Iwan Müller worked in the winter of 1844–1845 with Heckel on a new thirteen-key clarinet model<sup>148</sup> and Anton Foreit and Theodor Schmidt assisted Heckel with testing and fine-tuning of instruments. In 1845 Heckel was honored by the title instrument maker to the Court of Hessen-Nassau, “herzoglich-nassauischer Hofinstrumentenmacher.”<sup>149</sup>

146. Otto Renkhoff *Nassauische Biographie*: (Wiesbaden: Historische Kommission für Nassau, 1992), 283–284.

147. Gunther Joppig, 264–265.

148. “Herr Iwan Müller hat, um diese Erfindungen gemeinnützig zu machen, die Wintermonate 1844–1845 in Biebrich am Rheine zugebracht und an dem Instrumentenmacher Herrn Heckel den rechten Mann gefunden,” Carl Gollmick, 382.

149. Waterhouse, “Heckel,” 167–168.

TABLE 9. Part of the Heckel family tree. Instrument makers are printed in bold.

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Johann Georg Heckel  
 x Johanna Charlotta Leißner  
 Johann Adam Heckel (Adorf Jul 3, 1773 – Adorf Mar 24, 1814)  
 x Rosina Margarete Seiler (Adorf 1777 – 18??)  
**Johann Heinrich Heckel** (Adorf Nov 19, 1809 – Adorf Dec 13, 1898)  
**Johann Adam Heckel** (Adorf Jul 14, 1812 – Biebrich Apr 13, 1877)  
 x (Mosbach-Biebrich 1837) Elisabeth Steinhauer (1815 – 1872)  
**Wilhelm Heckel** (Biebrich Jan 15, 1856 – Biebrich Jan 13, 1909)  
 x (Wiesbaden 1878) Emma du Fais (1859 – 1921)  
**Wilhelm Hermann Heckel** (Biebrich Jul 16, 1879 – Biebrich Jan 12, 1952)  
**August Heckel** (Biebrich Oct 4, 1880 – France Sep 19, 1914)  
 Christian Wilhelm Heckel (Adorf Sep 21, 1776 – Adorf Apr 19, 1830)  
**Christian Gottlieb Heckel** (Adorf Oct 22, 1810 – Adorf Apr 23, 1862)  
**Gottlob August Heckel** (Adorf Aug 24, 1818 – Adorf Dec 17, 1898)  
 Carl August Heckel (1779 – ????)  
**Friedrich Wilhelm Heckel** (Adorf Dec 14, 1805 – Adorf Mar 9, 1881)  
**Johann Adam Heckel** (Adorf Apr 13, 1809 – Dresden Apr 10, 1866)

### *Horns of the Schott Brand*

In a letter of February 4, 1822, Joseph Küffner discussed instruments delivered by Schott: the brass instruments were considered excellent in general, but the horns were missing the essential A-flat crooks.<sup>150</sup> In 1826, Schott offered traditional horns with crooks as well as keyed horns (table 10).

In 1835, Gottfried Weber wrote in *Cäcilia* that in the Schott factory, horns with three valves (fig. 20) had been produced for several years, with ever-improving technique.<sup>151</sup> Pictures of these horns with three double-pistons valves but with the early “actuating touches” (Altmainzer Modell) as made by Carl August Müller at Schott are shown in figure 21. In 1839, Gottfried Weber explicitly praises Schott’s improved valved

150. “Was die Blechinstrumenten betrifft, so sind diese vortrefflich, bey den Horn [sic] fehlen aber die As Bögen”. Matthias Henke, 112.

151. “Abbildungen von Hörnern mit drei Ventilen, wie sie in der Schott’schen genannten Manufactur seit mehreren Jahren fortwährend, und jeden Tag mit neuen technischen und mechanischen Vervollkommnungen gearbeitet werden, zeigen die Figuren D und E.” Gottfried Weber, “Über Ventilhorn und Ventiltrompete mit drei Ventilen,” *Cäcilia*, vol. 17, nr. 66 (1835): 102.

TABLE 10. All horns offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

				Price	
				fl	kr
<b>Invention horn</b>	9 crooks	mounted on slide	in B-flat high to B-flat low	120	–
„ „	9 „	mounted in front	in B-flat high to B-flat low	96	–
„ „	6 „	„ „ „	in C-high to B-flat low	66	–
„ „	5 „	„ „ „	in C-high to C-low	55	–
<b>Simple horn</b>	4 „	„ „ „		33	–
„ „			in F, E-flat or D	24	–
„ „			large hunting horn	30	–
<b>Signal horn</b>	6 or 7 keys			33	–
„ „			half-moon shaped	10	–
„ „			trumpet-shaped	10	–
„ „			pocket-size hunting horn	5	–
<b>Bombardone</b>	12 keys		with dragon head	100	–
„	12 „		with bell	88	–
<b>Russian bass horn</b>	3 „		with lion or dragon head	66	–
„ „ „	3 „		with bell	66	–
<b>Post horn</b>			in C	3	–
„ „			in F	3	30
„ „			in D	4	–
„ „	4 crooks	with slide		8	–
„ „	4 „	„ „	trumpet-shaped	8	–
„ „	5 keys	„ „	trumpet-shaped	18	–

horns.<sup>152</sup> Horn production was clearly present at Schott, at least between 1822 and 1839.

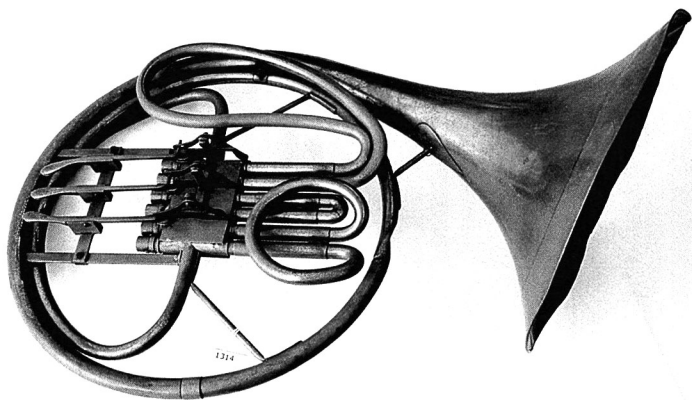
### *People Involved in Horn Production at Schott*

Two people were without doubt involved in horn production at Schott: Johann Carl Grimm and Carl August Müller; the latter is discussed on page 139.

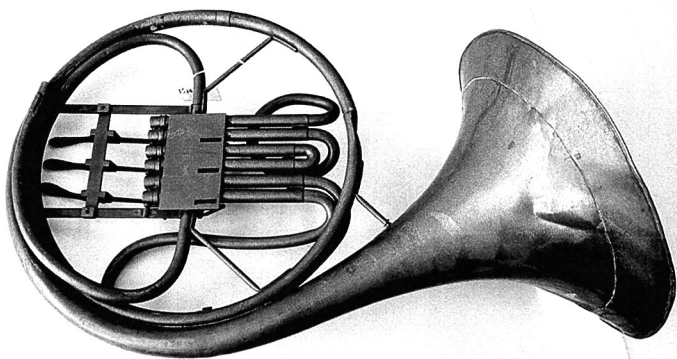
The brothers Johann Carl Grimm and Johann Christian Grimm studied horn with their father Johann Christoph Grimm (table 11), who was a valet of the duchess Charlotte of Sachsen-Hildburghausen.<sup>153</sup>

152. "Auch sind schon insbesondere ihre verbesserten Blechinstrumente, vorzüglich Ventilhorne und Ventiltrompeten, in diesen Blättern ausführlich analysirt." Gottfried Weber, "Ehren Auszeichnungen . . .," 263.

153. Ingward Ullrich *Hildburghäuser Musiker* (Hildburghausen: Frankenschwelle, 2003), 60–61; Goltz, *Musiker-Lexikon des Herzogtums Sachsen-Meiningen* (1680–1918) (Meiningen, 2008), 103–104.



a)



b)

FIGURE 20a–b. Horn, Nr. 40 by kind permission of the Musical Instruments Museum, Brussels. Photos by the author. (See color photos p. 226.)



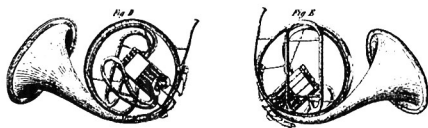


FIGURE 21. Horns with three double-piston valves, as made by Carl August Müller at Schott.

Both joined the local Court Chapel, and they became ducal chamber musicians in Hildburghausen on March 30, 1816. Both joined the court orchestra in Biebrich (table 2) in 1823, where they played until 1842. Thereafter, they played in the theatre orchestra in Wiesbaden until at least 1854.<sup>154</sup> It is not clear which of the brothers assisted Schott, since only the surname “Grimm” is mentioned,<sup>155</sup> but probably the oldest brother. Johann Carl Grimm married Johanne Caroline Ortleb in 1817. Their son Niclaus Carl Grimm also played in the court orchestra in Biebrich in 1841–1842 (table 2).

### *Keyed Trumpets, Bugles and Cornets of the Schott Brand*

By 1819, Schott was producing excellent brass instruments and newly invented keyed bugles.<sup>156</sup> Gottfried Weber specifically mentioned the bugles and bass-bugles with nine keys produced at Schott.<sup>157</sup> In 1824, Carl August Müller relocated from Adorf to Mainz, and he worked at Schott to make keyed trumpets and keyed bugles.<sup>158</sup> Table 12 shows that Schott

154. Hessisches Hauptstaatsarchiv / Herzoglich-Nassauisches Hausarchiv (130 II). Laufzeit: 1822–1854.

155. Waterhouse, “Schott, B., fils,” 362.

156. “Die Messing instrumente sind von seltener Vollkommenheit; das neuerfundene Klappenflügelhorn, bey Militärmusik von grosser Wirkung und leicht zu behandeln, entspricht jedem billigen Wunsche,” *AMZ* (May 5, 1819): 358.

157. “Wenigstens habe ich in der großen und wohlengerichteten Instrumenten-Manufaktur der Herren Schott in Mainz, woselbst auch Buglehörner mit großer Sorgfalt und Geschicklichkeit angefertigt werden, einige Baß-Buglehörner mit 9 Klappen gesehen und gehört” Gottfried Weber, “Bugle-Horn,” *Allgemeine Encyclopädie der Wissenschaften und Künste* (Leipzig: Gleditsch, 1824), 415–416.

158. “Ein nach diesen Grundzügen gebautes Instrument, in der Manufactur der Herrn Schott in Mainz von dem überaus geschickten Instrumentenmacher C. A. Müller gefertigt, liegt in diesem Augenblicke vor mir.” Gottfried Weber, “Über Ventilhorn . . .,” 99.

TABLE 11. Part of the Grimm family tree. The person involved with Schott is printed in bold.

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Johann Christoph Grimm (Mar 18, 1768 – Feb 28, 1854)  
 x (1789) Christina Friederike Karch (Nov 17, 1764 – <1854)  
**Johann Carl Grimm** (Hildburghausen Mar 17, 1791 – Weilburg/Lahn >1854)  
 x (Jan 12, 1817) Johanne Caroline Ortleb (Aug 14, 1797 – Wiesbaden/Biebrich >1819)  
 Nielaus Carl Grimm (Hildburghausen Apr 28, 1819 – Wiesbaden Jan 9, 1888)  
 Johann Christian Grimm (Hildburghausen Jun 1, 1794 – >1876)  
 x (1821) Johanne Christine Höhn (1797 – 18??)  
 Johann Heinrich Grimm (Hildburghausen Jul 18, 1798 – Frankfurt am Main 18??)

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TABLE 12. All trumpets offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

				Price	
				fl	kr
<b>Invention trumpets</b>	9 or 10 crooks	mounted on slide	in B-high to B-flat low	72	–
” ”	6 or 7 crooks	mounted in front	in G to B-flat	40	–
” ”		with double tuning slide		36	–
<b>Valved trumpet</b>				30	–
<b>Keyed trumpets</b>	6 keys, 4 crooks	mounted in front	with crooks for F, E-flat, D and C	36	–
<b>Simple trumpets</b>	4 crooks		in F with crooks for E-flat, D, C and B-flat	20	–
” ”	2 crooks		in E-flat with crooks for C and B-flat	18	–
” ”			in F or E-flat	14	–
<b>Bass trumpet</b>	3 crooks	with slide	in F with crooks for E-flat, C and B-flat	36	–
<b>Simple bass trumpet</b>			in F or E-flat	24	–

offered both the traditional trumpets, keyed trumpets, and valved trumpets in 1826. Another proof of their production of keyed bugles (fig. 22) and keyed trumpets (fig. 23), appears in 1829.<sup>159</sup> Müller founded his

159. "Eine Anweisung über die Klappen-Trompete u. das Klappen-Flügelhorn von Roy ist zu Mainz in der oben genannten Schott'schen Musikhandlung erschienen; wo man auch diese Instrumente . . . erhalten kann." Franz Joseph Fröhlich, *Systematischer Unterricht in den vorzüglichsten Orchester-Instrumenten*, vol. 2 (Würzburg: Bauer, 1829), 524.



FIGURE 22. Keyed bugle, Nr. 46 by kind permission of the Musical Instruments Museum, Brussels. Photo by the author. (See color photos p. 227.)

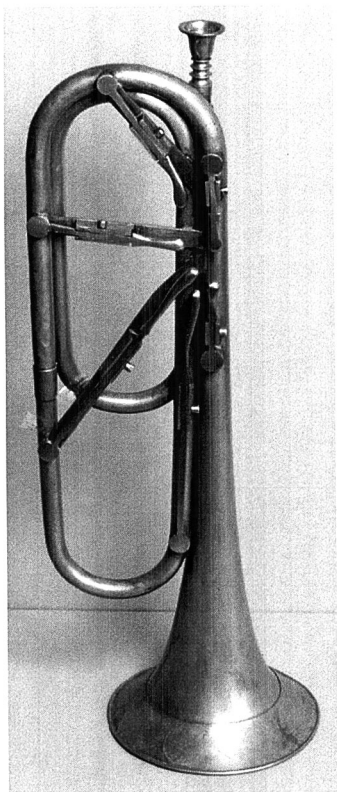


FIGURE 23. Keyed trumpet made for Schott by Carl August Müller, Nr. 42 from Museum of Musical Instruments, Leipzig. Photo by Marion Wenzel. (See color photo p. 228.)

own workshop in Mainz, "C. A. Müller Musikinstrumenten-Fabrik," in 1827, where he made keyed trumpets for Schott bearing the Schott mark until at least 1835.<sup>160</sup> Schott had exclusive rights for the sales of keyed trumpets. Figure 24 shows Schott's valved trumpets in an article published in 1835 in *Cäcilia*.<sup>161</sup> In 1839, Gottfried Weber explicitly praised Schott's improved valved trumpets.<sup>162</sup> Trumpet and bugle production at Schott was an active enterprise, at least between 1819 and 1839.

### *People Involved in Trumpet and Bugle Production at Schott*

Carl August Müller was crucial for brass instrument production at Schott. As the son of Johann Adam Müller and Johanna Magdalena Hertel (table 13), he trained in Adorf instrument making, probably with Johann Gottlieb Roth, Sr.<sup>163</sup> About 1824, he moved to Mainz where he made brass instruments at Schott. In 1827, he started a workshop in Mainz, "C. A. Müller Musikinstrumenten-Fabrik," where he produced for Schott as well as under his own brand, "C.A. Müller in Mainz." In 1832, he married Katharina Wagner and they had two children. Mainzer address books prove that in 1836-1850 he owned a house in the street "Auf dem Brande." His son, Ferdinand August Müller, succeeded him after his death.<sup>164</sup>

In 1830, Carl August Müller proposed a chromatic trumpet with three valves (fig. 24) and later a three-valve horn (fig. 21). He developed double-piston valves, known as "Mainzer Ventil." First, he developed the "Altmainzer Machine," similar to Roth in Adorf. Later he invented the "Neumainzer Machine," enhancing the work of Kail and Riedl.

160. "... sog. Mainzer Klappentrompete, von dem bekannten Instrumentenmacher und Verbesserer des Ventilsystems C.A. Müller in Mainz für das Haus Schott daselbst erbaut. Dieses Haus hatte damals den ausschließlichen Vertrieb solcher Instrumente, und daher wurde auch auf der Stürze die Firma eingraviert. Nach der Etablierung 1824 in Mainz arbeitete C.A. Müller noch bis nach 1830 für die Firma Schott. Die Wits Andeutung lässt auf einen Vertrag zwischen Müller und der Firma Schott über den Vertrieb der Klappentrompete schließen." Herbert Heyde, *Trompeten, Posaunen, Tuben*, 135-136.

161. Gottfried Weber, "Über Ventilhorn . . .," 73-105.

162. "Auch sind schon insbesondere ihre verbesserten Blechinstrumente, vorzüglich Ventilhorne und Ventiltrompeten, in diesen Blättern ausführlich analysirt." Gottfried Weber, "Ehren Auszeichnungen . . .," 263.

163. Waterhouse, "Müller, C.A.," 274-275.

164. *Zeitschrift für Instrumentenbau*, vol. 17 (1897): 339.

TABLE 13. Part of the Müller family tree. Instrument makers are printed in bold.

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 Johann Adam Müller

x Johanna Magdalena Hertel (1770 – 1853)

**Carl August Müller** (Adorf Jan 11, 1804 – Mainz Jan 27, 1870)

x (Mainz Aug 11, 1832) Katharina Wagner (Mainz Apr 8, 1803 – ????)

**Ferdinand August Müller** (Mainz Oct 6, 1833 – Mainz Jan 29, 1897)
 

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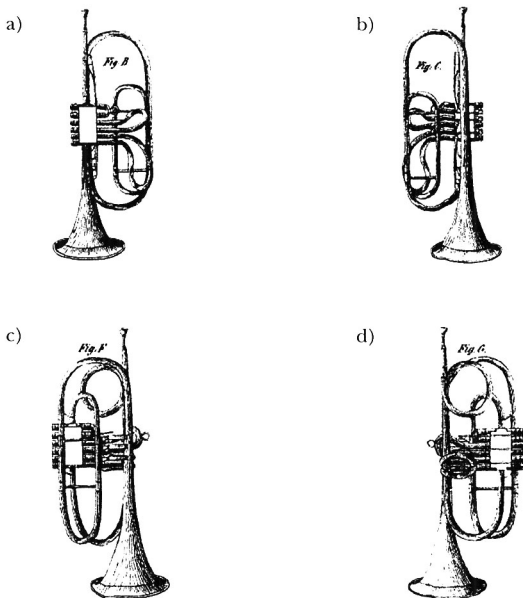


FIGURE 24a-d. Trumpets with three double valves made by "C.A. Müller" at Schott.

Later, Carl August Müller tried to make metal versions of all woodwind instruments of similar quality, as advertised in 1840.<sup>165</sup> Note that Carl August Müller was not granted a patent in France in 1835, as has been claimed;<sup>166</sup> this patent was to Louis Muller in Lyon.<sup>167</sup>

### *Trombones of the Schott Brand*

In 1816, Jacob Gottfried Weber published a trombone with a double slide he had invented a few years earlier.<sup>168</sup> This double-slide trombone had two connected slides, instead of the usual single slide. Hence, all positions were at half the normal distance, giving space to nine positions on the slide, instead of the usual six or seven. This yielded a significant extension of the range of a bass trombone, and it created double positions on the slide for several tones. Johann Heinrich Haltenhof (1752–1833) in Hanau was the first to make Weber's double-slide trombone. Already in 1817, Schott was producing these new instruments (fig. 25, figs. 26a and b)<sup>169</sup> under the guidance of Weber.<sup>170</sup> In that year, Weber designed a complete set of double-slide trombones, including alto, tenor, and bass trombones. In 1826, Schott offers both traditional trombones and double-slide trombones (table 14).

165. "Seit einer Reihe von Jahren beschäftigte ich mich mit Versuchen, welche den Zweck hatten, alle bisher gebräuchlichen Blasinstrumente von Holz in gleicher Güte auch in Metall darzustellen. Meine vielfältigen Bemühungen sind endlich mit dem erwünschten Erfolge gekrönt worden. . . . Mainz, den 13. August 1840 – C. A. Müller, Hofinstrumentenmacher." "Anzeige von Blasinstrumenten aus Messing," *Intelligenzblatt zur neuen Zeitschrift für Musik*, no. 3 (Aug. 1840).

166. Waterhouse, "Müller, C.A.," 274–275.

167. "A.M. Muller (L.), à Lyon (Rhône), un brevet d'invention de cinq ans, pour un instrument à vent en cuivre, dit cornet à trios pistons. (Du 10 juillet.)," *Archives des découvertes et des inventions nouvelles* (Paris: Treuttel et Würtz, 1836), 427.

168. Gottfried Weber, "Bassposaune," *AMZ*, vol. 18, no 44 (Nov. 30, 1816): 749–753.

169. "Von diesem Zeitpunkt an, und noch mehr seit ich meine Idee in meiner Akustik der Blasinstrumente (Leipziger allg. musik. Zeitg. XVIII. Nro. 3, 4, 5, 6, 41 bis 45) öffentlich bekanntgemacht, sind meine Doppelposaunen an vielen Orten mehr oder weniger glücklich nachgemacht worden, jedoch meines Wissens nirgendwo so vollkommen gut und mit so vollständiger Benutzung all der Vorzüge, deren sie ihrer Natur nach fähig sind, als von den Gebrüdern Schott (grossherzogl. Hof-Musikhandlung in Maynz." Gottfried Weber, in *Wiener AMZ*, vol. 1, no. 31 (Jul. 31, 1817): 262–263.

170. Gottfried Weber *Beschreibung und Tonleiter der Gottfried Weberschen Doppelposaune: so wie dieselbe in der Hofmusikhandlung und Instrumentenfabrik von B. Schott in Mainz nach der persönlichen Anleitung des Erfinders angefertigt wird* (Mainz: Schott, 1817).

*Gottfried Weber'sche Doppelposaune*

A. Tenorbass.      B. Tenor.

1.   
 2.   
 3.   
 4.   
 5.   
 6.   
 7.   
 8.   
 9.

FIGURE 25. Drawing in the article of G. Weber explaining the double-slide trombone.

### *People Involved in Trombone Production at Schott*

Jacob Gottfried Weber was the fourth child of the elector, "Justiz-ammann," Friedrich Ludwig Weber and Catharina Josepha Jordan (table 15).<sup>171</sup> As a child, he played flute and piano, later followed by organ and cello. He finished his study of law in 1802 and he settled as an advocate, "Dicasterial-Advocaten," in Mannheim on October 5, 1802, where he became prosecuting attorney in 1804. Still involved in music there, however, he conducted many concerts and founded a conservatory in 1806. On February 2, 1806, he married Theresia von Edel,<sup>172</sup> but she passed away two years later during the birth of their son (table 15). On January 7, 1810, he married the soprano Auguste von Dusch and the pair subsequently had ten children. In November 1814, he continued his career in Mainz as judge, "Richter am Tribunal."<sup>173</sup> He was a distinguished

171. Gottfried Weber, "Gfr. Webers kurze Biographie" in *Versuch einer geordneten Theorie der Tonsetzkunst*, (Mainz: Schott, 1832), 199.

172. Arno Lemke, 34.

173. Gottfried Weber, in *Neue Zeitschrift für Musik: das Magazin für neue Töne*, vol. 11 (Mainz: Schott, 1839): 196.



FIGURE 26a–b. A double-slide trombone of Schott, Nr. 49 of the Musikinstrumenten-Museum Markneukirchen. Photos by Frank Fickelscherer-Faßl. (See color photos p. 229.)



TABLE 14. All trombones offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

		Price	
		fl	kr
<b>Bass trombone</b>	with double slide	44	–
<b>Tenor trombone</b>	„ „ „	36	–
<b>Bass trombone</b>	with single slide	30	–
<b>Tenor trombone</b>	„ „ „	22	–
<b>Alt trombone</b>	„ „ „	16	–
<b>Bucsin</b>	with slide	44	–

TABLE 15. Part of the Weber family tree. The person involved with Schott is printed in bold.

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Friedrich Ludwig Weber (Meisenheim 1735 – 1818)
x (1796) Catharina Josepha Jordan
<b>Jacob Gottfried Weber</b> (Freinsheim Mar 1, 1779 – Bad Kreuznach Sep 21, 1839)
x (Mannheim Feb 13, 1806) Theresia von Edel (~1786 – Mannheim Aug 14, 1808)
x (Mannheim Jan 7, 1810) Auguste von Dusch (~1787 – Darmstadt Apr 20, 1861)

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acoustician, music theoretician, conductor and composer, but throughout his life he earned his income as jurist.

At the end of 1816, Weber published a series of articles on bass instruments.<sup>174</sup> In the article “Bassposaune,” he disclosed a double-slide trombone he had invented a few years earlier. In 1817, Weber designed double-slide trombones in four tunings, produced by Schott.

In Mainz, Gottfried Weber became the director of the new ducal National Theatre, “großherzoglichen Nationaltheaters,”<sup>175</sup> In this function, he had close contact with Schott, since both were members of the Committee of the National Theatre, “Verwaltungsausschuß des Neuen Nationaltheaters,”<sup>176</sup> but he was never employed at Schott.

Weber's influence reached far beyond two improved instruments. In 1816, the knowledge of acoustics was scarce and Weber's series of articles

174. Gottfried Weber, *AMZ*, vol. 18 (1816): 693–702, 709–714, 725–729, 749–753, 765–769.

175. Gottfried Weber, *Neue Zeitschrift für Musik*, 196.

176. Arno Lemke, 39.

on the acoustics of wind instruments received a warm welcome.<sup>177</sup> The next year, Weber published the practical consequences in the same journal.<sup>178</sup> From own observations, he identified the excitation mechanism of free pipes and reed pipes, including their harmonics, and the basic principles of tone hole design. He argued that the traditional placement of the finger holes, adjusted to the player's hand, was acoustically incorrect. Many tone holes were located too far upward on the instrument. To compensate the tuning, the holes were small, resulting in a weaker and duller sound. He proposed to place tone holes more downward and to increase their diameters, adding a key when needed. This was so fundamental and seminal that he caused a revolution in instrument making. Several innovations of instruments at Schott (bassoon, oboe, clarinet) are in line with Weber's ideas, although it cannot be proved that Weber initiated all of them.

In 1819, Gottfried Weber relocated to Darmstadt to become General State Prosecutor, "Grossherzoglicher Generalstaatsprokurator," but his link to Schott remained close. From 1824 until his death, he was editor of the journal *Cäcilia*, founded by him and published by Schott. In *Cäcilia*, Gottfried Weber published on improvements of the bassoon by Carl Almenräder in 1825<sup>179</sup> and in 1828.<sup>180</sup> In 1829, he published on new developments of clarinet and basset horn<sup>181</sup> and in 1835 of horn and trumpet.<sup>182</sup>

Of course, Gottfried Weber published many more articles, especially in the field of law, but also on the theory of acoustics, music history, performing practice, and theoretical issues in journals as well as in encyclopedias. Although Weber was a jurist by profession, he was honored several times for his contributions to music. On November 11, 1827, for example, he became an honorary member of the "Königlich Schwedischen Akademie" in Stockholm.<sup>183</sup> In 1831, he became an honorary

177. Gottfried Weber, "Versuch einer praktischen Akustik der Blasinstrumente," *AMZ*, vol. 18 (1816): 33–44, 49–60, 65–74, and 87–90.

178. Gottfried Weber, "Praktische Resultate aus des Verfassers Akustik der Blasinstrumente," *AMZ*, vol. 19 (1817): 809–814 and 825–830.

179. Gottfried Weber, "Wesentliche Verbesserungen des Fagottes," *Cäcilia*, vol. 2, nr. 6 (1825): 123–140.

180. Gottfried Weber, "C. Almenräder's weitere Fagott-Verbesserung," *Cäcilia*, vol. 9, nr. 34 (1828): 128–130.

181. Gottfried Weber, "Einiges über Clarinett und Bassethorn," *Cäcilia*, vol. 11, nr. 41 (1829): 35–57.

182. Gottfried Weber, "Über Ventilhorn und Ventiltrompete mit drei Ventilen," *Cäcilia*, vol. 17, nr. 66 (1835): 73–105.

183. Gottfried Weber, *Neue Zeitschrift für Musik*, 196.

member of the “Hollandse Vereniging ter bevordering van de toonkunst” in Rotterdam, as well as of the “Thüringisch-Sächsischen Musikvereins.”<sup>184</sup>

### *Ophicleides of the Schott Brand*

In Schott's extensive pricelists published in *Cäcilia* from 1825 to 1827, no mention is made of ophicleides. However, in 1828 the editor of *Cäcilia* mentioned Schott's precise and careful production of ophicleides.<sup>185</sup> Figure 27 shows the accompanying fingering chart for a nine-key ophicleide by Schott. In 1829, the ophicleide (Paris model with nine keys) is made by Schott<sup>186</sup> and in the *Berliner AMZ* their production at Schott is also mentioned<sup>187</sup> as well as in 1830.<sup>188</sup> These illustrate references to the production of ophicleides at Schott only between 1828 and 1830. Which specific persons were involved is unclear.

### *Pianos of the Schott Brand*

As early as 1787, Schott offered pianos at an exhibition in Frankfurt.<sup>189</sup> Construction of a piano factory started in 1822,<sup>190</sup> and in 1824 it took over the piano factory of Heilmann Sohn when the owner died.<sup>191</sup>

184. Arno Lemke, 51.

185. “. . . um unsern Lesern auch die Abbildung und Gamme des . . . Ophicleide oder Basse d'harmonie genannt, mitzuthemen, wie dasselbe nunmehr auch in der B. Schottischen Hof-Musikhandlung und Instrumenten Manufactur in Mainz, Antwerpen und Paris, mit grösster Sorgfalt und Genauigkeit, angefertigt wird;” “Die Ophicleide,” *Cäcilia*, vol. 9, nr. 34 (1828): 130.

186. “Dieses sehr werksame Bassinstrument, von Messing oder Kupfer, mit 9 Klappen, wird, dem Pariser Modell ganz getreu, verfertigt, bei B. Schott's Söhnen in Mainz;” “Ophicleide” in *Cäcilia*, vol. 20, nr. 39 (1829): 12.

187. “Die Ophicleide ist . . . In der B. Schottischen Instrumenten Manufaktur zu Mainz ist seit einiger Zeit dieses Instrument ebenfalls von Metall gearbeitet.” C. Girschner, “Bemerkungen über Musik-Instrumenten-Bau,” *Berliner AMZ*, vol. 6, no. 2 (1829): 14–15.

188. “Unter andern ist daselbst von der Ophicleide (auch Basse d'Harmonie genannt) die Rede, welche die Stelle des Kontravivols bei Militairmusiken vertreten soll, und welche jetzt in der Instrumenten - Manufaktur der Herren Schott in Mainz . . . verfertigt werden.” A. Wendt, “Anzeige über die neu erfundene Bass-Klarinette und Kontrabass-Klarinette,” *Berliner AMZ*, vol. 7, no. 21 (1830): 167.

189. *Frankfurter Meß-Schema* (1787).

190. James Kopp, “Schott, B.,” *Grove Dictionary of Musical Instruments*, 2nd ed., 4 vols. Edited by Laurence Libin (Oxford: Oxford University Press, 2015).

191. “Durch die Übernahme der Werkstatt des Klavierbauers Heilmann nach dessen Tod durch die Söhne des Gründers des Mainzer Musikverlags und Notentechers Bernhard Schott in 1824 entstand die erste im großen Stil betriebene Fertigung von Klavieren in der Region.” *Archiv für hessische Geschichte und Altertumskunde* vol. 40 (Darmstadt: Historischer Verein für Hessen, 1982), 260.

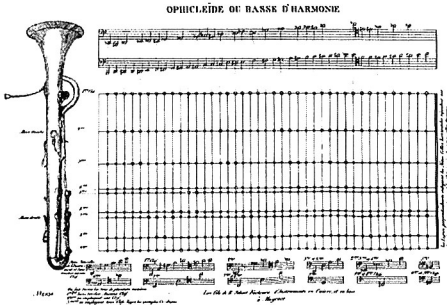


FIGURE 27. Fingering chart for a nine-key ophicleide, as produced by Schott.

Early in 1826, Schott offered only pianos of other brands,<sup>192</sup> but in May 1826, it claimed its own production (table 16),<sup>193</sup> which it pursued until at least 1867.

In 1829, Peter Mönch (1811–1884) worked in the Schott piano factory.<sup>194</sup> In 1839, an article in *Cäcilia* mentioned that Schott has been producing pianos for fifteen years in its factory. Every month, four grand pianos (fig. 28a) and four to six table- and upright pianos (fig. 28b) were

192. “Flügelpianofortes, von Nanette Streicher in Wien, von 6 Octaven, in Nussbaum- und Maser-Eschenholz, sind fortwährend in hinlänglicher Anzahl, zur auswahl, zu finden in der Hofmusikhandlung von B. Schott’s Söhnen in Mainz. Auch von andern berühmten Meistern sind daselbst Flügel- und tafelförmige Pianoforte stets in Vorrath.” *In Intelligenzblatt zur Cäcilia*, vol. 4, nr. 15 (1826): 40.

193. “Preis-Courant von Fortepianos, welche in vorzüglicher Güte bei Schott’s Söhnen in Mainz verfertigt werden. Tafelförmige, mit oder ohne Verzierung, in Nussbaum oder Mahagoni (von fl. 200 bis fl. 400). Dergleichen in Flügelform (von fl. 300 bis fl. 500). Dergleichen in Giraffes und schrankförmige (von fl. 400 bis fl. 600).” *Supplement au catalogue . . . in Cäcilia*, vol. 4, nr. 16 (1826); “Bei B. Schott’s Söhnen in Mainz sind alle vorerwähnten Gattungen von Pianoforten jederzeit in vorzüglicher Güte zur Auswahl zu finden, welche dieselben theils von Nanette Streicher geb. Stein und Sohn in Wien, theils von anderen bewährtesten Meistern Wiens und anderer Orte beziehen, theils auch unter eigener sorgfältigster Aufsicht aus den besten Materialien in ihrer Manufactur anfertigen lassen.” Conrad Mathias Berg, *Ideen zu einer rationellen lehrmethode für musiklehrer* (Mainz: Schott, 1826), 54.

194. “Peter Mönch (1811–1884). Der Vater war Schreinermeister mit einer Werkstatt in Tholey, im Matzenecken. Der Sohn lernte das Schreinerhandwerk und die Musik im Elternhaus kennen. Er musizierte mit dem Vater auf Hochzeiten und Festen, eine Tätigkeit, die er nicht liebte. Peter Mönch verließ Tholey 1829 gegen den Willen des Vaters. Er fand seine erste Arbeitsstelle in Mainz bei Klavierbauer Schott, heute Musikverlag Schott. Danach wanderte er weiter und fand bei dem aus Italien zugewanderten Geigen- und Klavierbauer Nicolai in Stuttgart seine nächste Lehrstelle,” <http://www.theulegium.de/index.php?id=moench>.

TABLE 16. All pianos offered by B. Schott's Söhne in an advertisement in *Cäcilia* in 1826.

	<b>Ornaments</b>	<b>Wood</b>	<b>Price fl</b>
<b>Table pianos</b>	with or without	walnut or mahogany	200 - 400
<b>Grand pianos</b>	with or without	walnut or mahogany	300 - 500
<b>Giraffe pianos</b>	with or without	walnut or mahogany	400 - 600
<b>Upright pianos</b>	with or without	walnut or mahogany	400 - 600

delivered, but still a waiting list existed.<sup>195</sup> Division of labor enabled efficient production of these large quantities of instruments.<sup>196</sup> Carl Meyer<sup>197</sup> headed this piano factory in 1839–1846, where around 1840 the twenty-five workers produced 120–130 pianos every year.

In 1840, Schott entered into partnership with the Brussels piano maker Christian Horstmann<sup>198</sup> but in 1843, there was mention of its own factories in Germany and Belgium (see piano Nr. 53).<sup>199</sup> In 1856, the piano factory, probably including the publishing house, had ninety-nine employees.<sup>200</sup> In 1861 and 1865, Schott still mentioned a piano factory in its catalogs.<sup>201</sup>

195. Gottfried Weber, "Ehren Auszeichnungen...", 265.

196. "Diese Geschäfts - Abtheilung hat besonders in solchem Grade zugenommen, daß diese Anstalt sich nun mehr im Stande sieht, jährlich 120 — 130 Instrumente, theils in Tafel-, theils in Flügelform, theils aufrechtstehende, zu 6 und 6½ Octaven, in allen Holzgattungen zu verfertigen. 25 Arbeiter werden hiermit beschäftigt, deren Arbeit möglichst vertheilt ist, indem ein jeder irgend einen Bestandtheil des Instruments ausschließlich verfertigt." in *Ausführlicher bericht über die von dem Gewerbeverein für das grossherzogthum Hessen im jahre 1842 veranstaltete Allgemeine deutsche industrieausstellung zu Mainz* (Mainz: C. W. Leske, 1843), 122.

197. "Herr Meyer, aus Zug in der Schweiz, welcher seine Kenntnisse durch sinniges Studium der besten Fabriken des In- und Auslandes bereichert. Alles geprüft und das Beste behalten — das Allerbeste vielleicht aus sich selber geschöpft hat, und jetzt, als Chef der Schottischen Klaviermanufactur, die Seele des Ganzen ist." Gottfried Weber, "Ehren Auszeichnungen . . .," 265–266.

198. Martha Novak Clinkscale, *Makers of the Piano: 1820–1860* (Oxford: Oxford University Press, 1993), 190, 334.

199. "dat de Heeren B. SCHOTT ZONEN, te Mainz, . . . een Depot gevestigd hebben van hun alom bekend FONDS van MUZIEK, en eigen in Duitsland en België gefabriceerde PIANO'S en andere INSTRUMENTEN," *Rotterdamsche Courant* (Oct. 24, 1843): 4.

200. According to a Gewerbesteuer-Tabelle of 1856 the piano factory of Franz Philipp Schott employed 99 workers. Gewerbesteuer-Tabelle von Mainz für das Jahr 1856, Hess. Staatsarchiv Darmstadt G 31 S, Bd. 13.

201. Verzeichniss der Verlagswerke der Gross. Hess. Hof-Musikhandlung & Pianoforte-Manufactur von B. Schott's Söhnen in Mainz (Mainz: Schott, 1861) and *ibid.* (1865).

a)



b)



FIGURE 28. Two pianos made in the Schott factory. a) A grand piano, Nr. 54 © GDKE - Landesmuseum Mainz. Photo by Ursula Rudischer. b) An upright piano, Nr. 53 © Musical Instruments Museum, Brussels. (See color photos p. 230.)

Schott presented pianos at various exhibitions. In 1837 in Darmstadt Schott showed grand pianos and fortepianos as well as table pianos.<sup>202</sup> In 1842 Schott exhibited a grand piano, a table piano and a pianino in Mainz.<sup>203</sup> In 1844, a table piano and a pianino were displayed in Berlin.<sup>204</sup> In London, in 1851, Schott exhibited a zebrawood upright piano.<sup>205</sup> In 1854, the company received an honorable mention for a grand piano exhibited in München<sup>206</sup> and in 1861, it received a bronze medal at a trade show in Darmstadt.<sup>207</sup>

### *People Involved in Piano Production at Schott*

Not much is known about Carl Meyer, born in Zug, Switzerland. In 1839, he headed the piano factory at Schott.<sup>208</sup> In the address books of 1843, 1845, and 1846 he was listed as a piano maker, "Klaviermacher," and he lived in the "Brauhaus zu den drei Mohren" in the Neuthorstrasse 3. Thus, he headed the piano factory at least from 1839 until 1846. In 1842, he is listed in the address book as piano maker, "Klaviermacher," with Karl Mayer at the same address. Karl Mayer is listed in Mainzer address books as assistant instrument maker, "Instrumentmachergehilfe," in 1836 in the Rheinstrasse and in 1839 in the Leichhofgasse. Carl Meyer and Karl Mayer are probably the same person.

In 1839, Jacob Meyer started as horn player in the Court chapel in Biebrich and in 1841, Gabriel Meyer joined him as bassoon player (table 2). Whether any family relation exists with Carl Meyer is unclear.

202. Gottfried Weber, "Ehren Auszeichnungen....," 262–266.

203. *Ausführlicher bericht über . . .*, 122.

204. *Ausführlicher Bericht über die große, allgemeine deutsche Gewerbe-Ausstellung in Berlin 1844* (Berlin: M. Simon, 1845), 605.

205. *Amtliches Verzeichniß der aus dem Deutschen Zollverein und Norddeutschland zur Industrie-Ausstellung aller Völker in London eingesandten Gegenstände* (Berlin: Decker, 1851), 295.

206. *Bericht der Beurtheilungs-Commission bei der Allgemeinen Deutschen Industrie-Ausstellung zu München im Jahr 1854* (München: Franz, 1855), 231.

207. "Jahresbericht der Großherzoglich Hessischen Handelskammer zu Mainz für 1861" in *Handels-Archiv: Wochenschrift für handel, gewerbe und Verkehrsanstalten* (W. Besser, 1862), 230.

208. Gottfried Weber, "Ehren Auszeichnungen . . .," 265–266.

### *People Involved in String Instrument Making for Schott*

Johann Diehl was the oldest son of the violinmaker Martin Diehl and Josefa Dopfer, daughter of a violinmaker (table 17).<sup>209</sup> His father died of dysentery when he was seventeen years old, so he had to earn money for his six siblings, who were between the ages of four and sixteen. Johann Diehl initially learned violin making from his father, but after his death most likely his grandfather, Nicolaus Dopfer, and his uncle, Jakob Steininger, advised him.<sup>210</sup> In 1798, he married Anna Maria Schierstein and the pair had twelve children, six dying in infancy.<sup>211</sup> Their only son to reach adulthood, Heinrich Diehl, became a successful violinmaker in Frankfurt am Main. Until 1804, Johann Diehl lived in his father's house at the Rechengasse, but later he relocated at least thirteen times over short distances in Mainz.

Until 1819, he produced instruments exclusively for Schott,<sup>212</sup> but after that time he established himself independently, still supplying stringed instruments to Schott like his younger brothers Nicolaus and Jacob Diehl had done.<sup>213</sup>

### *Summary and Conclusions*

The founder of the Schott music publishing company and his three sons all played musical instruments. Some were even professional musicians for some time, hence, they knew exactly what musicians expected from a music editor, and they realized that adjacent markets existed. From at least 1785, Schott sold strings, music paper and musical instruments in addition to sheet music. Sales of sheet music and instruments were considered mutually stimulating; Schott could offer both the sheet music and the instruments to play it.

Between 1816 and 1840, Schott had its own factory for wind instruments, employing more than twenty workers in the glory days. These were mostly craftsmen, not general instrument makers, each specializing in a particular aspect of the production process, like wood-turning, key

209. J. Dilworth and J. Milnes, *The Brompton's Book of Violin and Bow Makers* (London: Usk Publishing, 2012).

210. A. Gottron, *Mainzer Musikgeschichte von 1500 bis 1800* (Mainz: Stadtbibliothek, 1959), 159–160.

211. E. Michels, "Johann Diehl (1775–1850) Geigenbauer in Mainz," *Das Orchester*, 37/2 (1989): 109–114.

212. "Kunstanzeigen," *Beilage bei: Der Spiegel* (Nov. 7, 1823).

213. *Beilage Cäcilia*, vol. 9, nr. 36 (Nov. 1829): 18.



TABLE 17. Part of the Diehl family tree. Instrument makers are printed in bold.

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<b>Martin Diehl</b> (Mainz Oct 3, 1741 – Mainz Aug 11, 1793)
x (Mainz May 20, 1774) Josefa Dopfer (Mainz Feb 21, 1748 – ????)
<b>Johann Diehl</b> (Mainz Apr 15, 1775 – Mainz Nov 14, 1850)
x (Mainz Sep 1, 1798) Anna Maria Schierstein (Mainz Nov 14, 1776 – ????)
<b>Heinrich Diehl</b> (Mainz Jan 5, 1815 – Frankfurt 1862)
<b>Nicolaus Diehl</b> (Mainz 1779 – Darmstadt 1851)
<b>Jacob Diehl</b> (Mainz Aug 14, 1789 – Mainz 1867)

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making, polishing, or soldering. In addition, the company employed a few general musical instrument makers known by name: Carl Friedrich August Jehring, Johann Adam Heckel, and Carl August Müller. After a few years of service at Schott, all of them established independently, still making instruments for Schott. The instrument production in the Schott factory was advised, or even guided, by professional musicians from the court chapel of the duke of Nassau: Carl Almenræder, Anton Foreit, Carl Grimm, and probably Theodor Schmidt. Schott implemented their inventions, and they were involved in fine-tuning and final tests. A good friend of Schott, Gottfried Weber, probably had a significant influence on the innovations of the wind instruments made at Schott, inspired by his theoretical knowledge of acoustics.

A large instrument factory with efficient division of labor, headed by a music publisher, not an instrument maker, appears to have been a new business model. Schott traded all musical instruments, many made in its own factory but many made by other makers as well. It had a network of contractors in Mainz (Alexander brothers, Johann and Jacob Diehl, Carl Friedrich August Jehring, Johann Adam Heckel, Carl August Müller), sometimes working in combination with its well-equipped workshop.

Schott worked with several people to develop the market for its instruments. A close relationship with Joseph Küffner, responsible for all instrument purchases of the Bavarian army, opened a large market of military wind instruments. Schott published the journal *Cäcilia*, edited by Gottfried Weber, to stimulate sales. Weber wrote in *Cäcilia* about new music and improved instruments, consequently advertising the instruments offered by Schott to play music published by Schott.

From 1824 until at least 1867, Schott also owned a piano factory employing dozens of workers, managed in 1839–1846 by the piano maker Carl Meyer. This was a more traditional approach than the innovative factory for wind instruments, but at least equally successful.

*Appendix: List of Known Instruments with the Schott Mark*

This list contains all instruments with the Schott maker's mark, known to the author. Note that even more instruments have been made by Schott (fig. 1). The terminology used is that of Phillip T. Young in *4900 Historical Woodwind Instruments* (Tony Bingham: London, 1993), where "key" refers to the key head that actually opens and closes a hole, while "levers" or "touches" are the mechanical extensions that allow the fingers to operate the keys.

- 1 Flute with 3 silver keys with round key heads (2 added later) and ivory ferrules. Length: 54 cm. Maker's mark: "Gebr. Schott / Mainz" / [horizontal curly bracket]. Sold on Jan. 4, 1998 by Sotheby's.
- 2 Flute of ebony in 4 sections with 6 finger holes, 4 silver keys, and 5 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. Length: 61.2 cm. Maker's mark on the barrel of the tuning slide: "Gebr. Schott / Mainz" / [horizontal curly bracket]. Private collection, Germany.
- 3 Flute of ebony in 4 sections with 6 finger holes, 4 silver-plated keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. Musée d'art Wallon Liège, Belgium, Nr. 1105, but present location unknown.
- 4 Flute (csakan) in 3 sections with 8 finger holes plus 4 resonance holes, 6 brass keys, and 2 brass ferrules. The keys have flat round key heads. Five keys are mounted on axles in saddles and one is mounted on a pin in the wood. Length: 84 cm. Maker's mark on the two upper sections: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Museum of Musical Instruments, Brussels, Belgium, Nr. 2346.
- 5 Flute of ebony in 4 sections with 6 finger holes, 7 silver keys, and 5 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. <http://www.br.de>.
- 6 Flute of composite wood in 4 sections with 6 finger holes, 8 nickel-silver keys, and 5 ivory ferrules. The keys with cupped round key heads are mounted on axles between pillars. Maker's mark on the two upper sections: "B. SCHOTT FILS / À MAYENCE." Museum of Musical Instruments, Brussels, Belgium, Nr. 2015.1183.
- 7 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double) plus 2 resonance holes in the bell, 5 silver keys, and 4 ivory ferrules. The keys with flat round key heads are

- mounted on pins in the wood. The octave-key is mounted on the front. Length: 55 cm. Maker's mark on the right-hand joint: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Musashino Music College Musical Instruments Museum, Tokyo, Japan.
- 8 Oboe of boxwood in 5 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 11 brass keys, and 5 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 55.1 cm. Maker's mark on the bell: [wheel] / "B. SCHOTT SÖHNE / IN MAINZ," with "106" below the mark. Gemeentemuseum Den Haag, The Netherlands, Nr. 1438.
- 9 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 11 silver keys, and 3 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 56 cm. Maker's mark on each joint: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Private collection, Switzerland.
- 10 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 11 silver keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 55.1 cm. Maker's mark on each joint except the head: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Private collection, Germany.
- 11 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 11 brass keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 54.7 cm. Maker's mark on each joint except the head: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Private collection, Belgium.
- 12 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes, 11 brass keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 56 cm. Maker's mark on the upper joint: "LES FILS / DE B. SCHOTT / A ANVERS." Private collection, France.
- 13 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 12 brass keys, and 3 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 54.5 cm. Maker's mark on each joint except the head: "LES FILS / DE B. SCHOTT / A

- ANVERS." Museum of Musical Instruments, Brussels, Belgium, Nr. 3579.
- 14 Oboe of boxwood in 4 sections including 2 tuning slides, 6 finger holes (3<sup>rd</sup> double), 12 brass keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 54.5/54.2 cm (with barrels of 52/57 mm). Maker's mark on each joint except the head: "LES FILS / DE B. SCHOTT / A ANVERS." Museum of Musical Instruments, Brussels, Belgium, Nr. 2332.
  - 15 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 14 brass keys, and 3 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length 54.3 cm. Maker's mark on each joint except the head: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Private collection, Germany
  - 16 Oboe of ebony in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), 14 silver keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 54.1 cm. Maker's mark: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Private collection, The Netherlands.
  - 17 Oboe of boxwood in 4 sections including a tuning slide, 6 finger holes (3<sup>rd</sup> double), with 14 silver keys, and 4 ivory ferrules. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the front. Length: 54 cm. Maker's mark on each joint except the head: "B. SCHOTT FILS / À MAYENCE" / [wheel]. Metropolitan Museum of Art, New York, USA, Purchase, Robert Alonzo Lehman Bequest, 2005. Nr. 2005.81a-g.
  - 18 English horn with 10 keys. Ex collection Willi Burger, Zurich, but present location is unknown.
  - 19 English horn of boxwood with 11 keys, ivory ferrules, and an ivory angled connection. Remarkable is the combination of swelling-, pillar- and ball bearings. Length: 76 cm. Maker's mark: "LES FILS / DE B. SCHOTT / A ANVERS." Musikinstrumenten-museum Berlin, Germany, Nr. 2965, lost during the Second World War.
  - 20 English horn of boxwood in 4 sections plus the original crook with 6 finger holes (3<sup>rd</sup> double), 12 silver keys, 4 ivory ferrules, and an ivory angled connection. The keys with flat round key heads are mounted on pins in the wood. The octave-key is mounted on the

- front. Maker's mark on all parts: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. National Music Museum, Vermillion, South Dakota, USA, Nr. 5897.
- 21 English horn in F of boxwood in 3 sections with 6 finger holes (3<sup>rd</sup> double), 12 brass keys, 2 ivory ferrules, and an ivory angled connection. The keys with cupped round key heads are mounted on pins in the wood and one on an axis between pillars. The octave-key is mounted on the front. Length: 70.5 cm. Maker's mark on the upper and lower joint: "LES FILS / DE B. SCHOTT / A ANVERS." Museum of Musical Instruments, Brussels, Belgium, Nr. 2620.
- 22 Clarinet in E-flat of boxwood in 5 sections without mouthpiece with 8 finger holes, 6 brass keys, and 6 ivory ferrules. Five keys with flat square key heads are mounted on pins in the wood, a sixth key on an axis between pillars on a metal plate. Length: 45 cm. Maker's mark on all sections: [wheel] / B. SCHOTT FILS / À MAYENCE," where "Es" replaces the lower [wheel] of the mark. Private collection, Japan.
- 23 Clarinet in B-flat of boxwood in 5 sections without mouthpiece with 8 finger holes, 6 brass keys, and 6 ivory ferrules. Five keys with flat square key heads are mounted on pins in the wood, a sixth key on an axis between pillars on a metal plate. Length: 58.5 cm. Maker's mark on all sections, except the barrel: [wheel] / B. SCHOTT FILS / À MAYENCE," where "B / 2" replaces the lower [wheel] of the mark. Collection Reinout Woltjer, The Netherlands.
- 24 Clarinet in B-flat of boxwood in 5 sections plus a mouthpiece with 8 finger holes, 6 brass keys, and 6 ivory ferrules. Five keys with flat square key heads are mounted on pins in the wood, a sixth key on an axis between pillars on a metal plate. Length without mouthpiece: 58.8 cm. Maker's mark on all sections: [wheel] / B. SCHOTT FILS / À MAYENCE," where "B" replaces the lower [wheel] of the mark. Sold by EarlyMusicalInstruments.com.
- 25 Clarinet in A of ebony in 4 sections plus a mouthpiece with 8 finger holes, 13 silver keys, 5 ivory ferrules, and an ivory thumb rest. The keys with flat round key heads are mounted on pins in the wood. The speaker key is mounted on the front. Length without mouthpiece: 62 cm. Maker's mark on all sections, except the barrel and bell: [wheel] / LES FILS / DE B. SCHOTT / A ANVERS," where "A" replaces the lower [wheel] of the mark. Museum Vosbergen, Eelde, The Netherlands, on loan from a private collector.

- 26 Basset horn in F of boxwood stained black in 4 sections plus a mouthpiece with 7 finger holes, 15 brass keys, 2 ivory ferrules, an ivory angled connection, and a decorated brass bell. Most of the keys with flat round key heads are mounted on pins in the wood. One key is mounted on a pin in an ivory block on the ivory knee. Two keys are mounted on axles in saddles. The speaker key is mounted on the front. Length without mouthpiece: 91 cm. Maker's mark on all wooden sections: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Museum of Musical Instruments, Brussels, Belgium, Nr. 174.
- 27 Bassoon of maple wood in 4 sections (crook missing) with 7 finger holes, 10 brass keys, 4 brass rings, and a wooden ring on the bell. The keys with flat round key heads are mounted on axles in saddles. Length: 131.2 cm. Maker's mark on the butt and on the bell: "B. SCHOTT SÖHNE / IN MAINZ." Museum of Musical Instruments Brussels, Belgium, Nr. 4354.
- 28 Bassoon of dark wood in 4 sections (crook missing) with 7 finger holes, 10 brass keys, 4 brass rings, and a wooden ring on the bell. The keys with flat round key heads are mounted on axles in saddles. Length: 133 cm. Maker's mark on the bell: "LES FILS / DE B. SCHOTT / A ANVERS," with "2" above and double printed "2" below the mark. Maker's mark on the wing: "LES FILS / DE B. SCHOTT / A ANVERS," with double printed "2" above and "1" below the mark. Maker's mark on butt (hardly readable): [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel], with "3" above the mark. Museum of Musical Instruments, Brussels Belgium, Nr. IDK0020-01.
- 29 Bassoon of dark maple wood in 4 sections plus a crook with 7 finger holes, 10 brass keys, 4 brass rings, and a wooden ring on the bell. The keys with flat round key heads are mounted on axles in saddles. Length: 132 cm. Maker's mark on wing, main tube, and bell: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. Heckel Museum Biebrich, Germany, Nr. F-10.
- 30 Bassoon of maple wood stained dark brown with 6 finger holes, 16 brass keys 4 brass rings, and a thick wooden rim on the bell. The keys with flat round key heads are mounted on axles in saddles. Crook socket and upper two keys bushed in ivory, as are two holes in the butt. Length: 129.1 cm. Maker's mark on the butt: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. On the wing the

- lowest [wheel] is replaced by "1". Adam Carse Collection, Horniman Museum London, Great Britain, Nr. 14.5.47/52.
- 31 Bassoon of stained maple wood with 16 keys, Almenräder system. In 1953, the bassoonist Maurice Bourgain in Paris owned this instrument, but present location is unknown.
- 32 Bassoon of maple wood stained black in 5 sections with 6 finger holes, 16 ivory keys, 4 originally brass rings, later plated silver, two wings, a brass crook, and a thick wooden rim on the bell. The keys with flat round key heads are mounted on axles in saddles. Length: 129 cm. Maker's mark on wing and bell: [wheel] / "B. SCHOTT FILS / À MAYENCE" / [wheel]. The two wing joints have the lower [wheel] replaced by "1" or "2", respectively. Germanisches Nationalmuseum Nürnberg, Germany, Nr. MIJ 21.
- 33 Bassoon, Almenräder model. Maker's mark: "B. SCHOTT FILS / À MAYENCE". Landolci Collection, Nr. 106, but present location is unknown.
- 34 Bassoon with 17 keys. Maker's mark: "B. SCHOTT FILS / À MAYENCE". Museum of Musical Instruments, Leipzig, Germany, Nr. 1400, lost during the Second World War.
- 35 Bassoon of maple wood stained black in 4 sections plus a crook with 6 finger holes, 19 brass keys, 4 brass rings, and a wooden ring on the bell. Most of the keys with flat round key heads are mounted on axles in saddles, but 2 on axles between pillars. Length: 127.3 cm. Maker's mark on wing and bell: [wheel] / "B. SCHOTT FILS / À MAYENCE." Heckel Museum Biebrich, Germany, Nr. F-10A, but present location is unknown.
- 36 Contrabassoon of maple wood stained black, straight model in 6 sections without crook with 6 finger holes plus 2 resonance holes, 6 brass keys, 7 brass rings, a brass crook, and an ivory ring on the bell. The keys with flat octagonal key heads are mounted on axles in saddles. Length: 170 cm. Maker's mark on wing and bell: "B. SCHOTT SÖHNE / IN MAINZ." Museum of Musical Instruments, Brussels, Belgium, Nr. 1001.
- 37 Contrabassoon of maple wood stained black in 4 sections plus brass crook in 2 sections with 7 finger holes plus 2 resonance holes, 8 brass keys, and 5 brass rings. The keys with flat round key heads are mounted on axles in saddles. Length: 163.8 cm. Maker's mark: "B. SCHOTT FILS / À MAYENCE." Heckel Museum, Biebrich, Germany, Nr. KF-1.
- 38 Contrabassoon of maple wood with 8 brass keys and brass rings, straight early Heckel model. Length: 164.5 cm. Maker's mark: "LES

- FILS / DE B. SCHOTT / A ANVERS." Musikinstrumenten-museum Berlin, Germany, Nr. 2974, lost during the Second World War.
- 39 Russian bassoon of boxwood stained black with 6 finger holes and 7 keys. Length: 118 cm. Maker's mark: "LES FILS / DE B. SCHOTT / A ANVERS." Musikinstrumenten-museum Berlin, Germany, Nr. 3075, lost during the Second World War.
- 40 Horn in F of brass without a mouthpiece with 3 double cylinders of the first Viennese system. Height: 44.1 cm. Maker's mark engraved on the bell: "*Mainz bei B. / Schott's Söhnen.*" Museum of Musical Instruments, Brussels, Belgium, Nr. 1314.
- 41 Trumpet of brass with 5 brass keys and an engraved rim of the bell. Maker's mark, engraved on the bell: "*Mayence chez les / fils de B. Schott.*" Museum of Musical Instruments, Leipzig, Germany, Nr. 1839, lost during the Second World War.
- 42 Trumpet in G of brass with 6 brass keys and an engraved rim of the bell. The keys with flat round key heads are mounted in square saddles. Length: 42 cm. Maker's mark, engraved on the bell: "*Mayence chez les / fils de B. Schott.*" Museum of Musical Instruments, Leipzig, Germany, Nr. 1840.
- 43 Trumpet in G of brass with 6 brass keys and an engraved rim of the bell. The keys with flat round key heads are mounted in square saddles. Length: 42 cm. Maker's mark, engraved on the bell: "*Mayence chez les / fils de B. Schott.*" Museum of Musical Instruments, Leipzig, Germany, Nr. 1841.
- 44 Bugle in C of brass without a mouthpiece with 6 keys and a decorated bell. The keys with flat round key heads are mounted on screws in square saddles. The key heads have the series of pitches in letters engraved on each of them. Length: 46 cm. Maker's mark engraved on the bell: "*B. Schott Söhne in Mainz.*" Bayerisches Nationalmuseum Munich, Germany, Nr. Mu 206.
- 45 Bugle in B-flat of brass with a decorated bell and 7 brass keys. The keys with flat round key heads are mounted on screws in square saddles. The key heads have the series of tone heights on a stave engraved on each of them. Length: 56 cm. Maker's mark engraved on the bell (hardly readable): "*Les fils de B. Schott a Anvers.*" Museum of Musical Instruments, Brussels, Belgium, Nr. 1244.
- 46 Bugle in E-flat of brass with 7 brass keys. The keys with flat round key heads are mounted on screws in square saddles. The key heads have the series of pitches on a stave engraved on each of them. Length: 41.5 cm. Maker's mark engraved on the bell: "*Les fils de B. a*



- Maijence et Anvers*," apparently missing the "Schott" in the mark. Museum of Musical Instruments, Brussels, Belgium, Nr. 2018.
- 47 Bugle of brass with 7 brass keys and an engraved bell. The keys with flat round key heads are mounted on screws in square saddles. The key heads have the series of pitches on a stave engraved on each of them. Maker's mark on the bell: "*Les fils de B. Schott a Anvers.*" Sold in 2008 at VICHY ENCHERES, VICHY, France.
- 48 Bugle of brass with 3 valves. Marked on the bell: "Royal Cambridge valve field registered 24th may 1852. A. J. Schott." Musée de la musique Paris, France, Nr. 1405, but present location unknown.
- 49 Trombone (with double slide as invented by Gottfried Weber) in 2 sections, with a decorated bell. Maker's mark engraved on the bell: "B. / SCHOTT FILS / À MAYENCE." Musikinstrumenten Museum Markneukirchen, Germany, Nr. 80.
- 50 Trombone (buccin tenor trombone) in 2 sections plus a mouthpiece with dragon head bell. Length: 107 cm. Maker's mark engraved around the bell: "*Maijence chez les fils de B. Schott.*" Museum of Musical Instruments, Brussels, Belgium, Nr. 215.
- 51 Trombone without a mouthpiece in 2 sections with a decorated bell. Length: 130 cm. Maker's mark engraved on the bell: "B. SCHOTT FILS / À MAYENCE." Museum of Musical Instruments, Brussels, Belgium, Nr. 214.
- 52 Piano (upright) of zebrawood, compass: FF-f4. Maker's mark: "Les fils de B. Schott / Mayence / Paris & Anvers." Germanisches Nationalmuseum Nürnberg, Germany, MIR 1181.
- 53 Piano (upright), compass AAA-a4. Height: 115.5 cm, width: 132 cm, depth: 62.5 cm. Maker's mark: "Schott Frères Bruxelles." Museum of Musical Instruments, Brussels, Belgium, Nr. 3810.
- 54 Piano (grand), compass: FF-f4. White keys: Ivory, black keys: Ebony. Maker's mark: "*Les / Fils de B. Schott / à / Mayence & Anvers.*" Landesmuseum Mainz, Germany, Nr. 1837 504.
- 55 Piano (grand) of rosewood, compass AAA-a4. White keys: Ivory, black keys: Ebony. Maker's mark: "B. Schott's Söhne / IN MAINZ / Brevetirte Instrumenten Manufactur / Sr. Königl. Hoheit Des Grossherzogs von Hessen." Former collection Edrie Holloway, now in Schotthaus in Mainz, Germany.
- 56 Piano (grand), compass FF-f4. Schotthaus in Mainz, Germany.