

SPECIAL EFFECTS IN THE FIRST PRODUCTION OF *DER FREISCHÜTZ*¹

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For over a century, Carl Maria von Weber's *Der Freischütz* was the most frequently performed opera in Berlin². The reasons for its initial success and continuing popularity have been thoroughly examined: the rivalry with Spontini's *Olympia*, the quintessentially German characters and plot, the dedication of a new theatre for which this work was ideally suited, and of course Weber's powerful and memorable music. There was yet another factor, though, that contributed significantly to the appeal of the original production. Contemporary audiences were impressed not only by the music and the drama, but also by a stunning array of visual effects in the Wolf's Glen scene. The effects used in the 1821 premiere are now obsolete because of the availability of electric lighting, which is safer and easier to use but may lack the excitement and potential danger of the flames and smoke used in Weber's day. These effects were so powerful that they helped give credibility to an essentially incredible story, thereby allowing the entire opera to be effective.

Weber's letters to his librettist Friedrich Kind show that the special effects for the pivotal Wolf's Glen scene were a constant preoccupation for the directors throughout the rehearsal process. On 27 May, the day after the dedication ceremony for the Neues Schauspielhaus, he reported in a letter to Kind:³

Nun sollen auf S: Majestät ausdrücklichen Befehl, alte Sachen gegeben werden, bis meine Oper in Szene gehen kann. dieß wird schwerlich vor dem 8 – 10 – Juny geschehen können, da die Wolfsschlucht gar zu viel Szenischen Apparat fo[r]dert. Uebrigens sind des MaschinenMster und Dekorateur Gropius⁴ Ansichten und Plane davon ganz herrlich und phantasiereich, und es wird wohl in seiner Art einzig dargestellt werden.

Four days later he reported further: *Mit dem Freischützen geht es von Seiten des musikalischen trefflich. alles wirkt dabei mit Liebe und Lust. Das Dekorations und Maschinenwesen aber hält entsetzlich auf*⁵.

Indeed the Wolf's Glen scene was so complicated that the problems of staging it were not finally solved until the cast and crew devoted an entire rehearsal to the scene on 14 June. Since the total rehearsal period for the opera consisted of only sixteen rehearsals, this scene clearly demanded a disproportionate amount of time and effort.

The Wolf's Glen scene utilized the most advanced visual and sonic effects available in 1821.

¹ Anm. der Redaktion: Eine erweiterte Studie des Autors über die *Freischütz*-Uraufführung und Schinkels Neues Schauspielhaus ist in Vorbereitung und wird voraussichtlich 1997 in *Opera in Context: Essays on Historical Staging*, ed. by Mark A. Radice erscheinen.

² *185 Jahre Staatsoper. Festschrift zur Wiedereröffnung des Opernhauses Unter den Linden am 28. April 1928*, ed. by Julius Kapp, Berlin [1928], p. 110

³ Autograph: Berlin SBB (Weberiana Cl. II A b, Nr. 15); see also Friedrich Kind: *Der Freischütz. Volks-Oper in drei Aufzügen. Ausgabe letzter Hand*, Leipzig 1843, p. 158. Text follows the original.

⁴ Carl Wilhelm Gropius (1793-1870)

⁵ Kind, op. cit., p. 160

Most of these are now long forgotten, superseded by electric lighting and recorded sound. It is possible to get a sense of what the original production looked like, however, by comparing several sources. Many of the effects are included in the score, although without explanation on their precise execution. The composer addressed this problem when the opera was performed for the first time in Dresden in January 1822. Weber wrote an extensive description of the effects for the Dresden director Hellwig⁶ in preparation for the premiere in that city⁷. His description elaborates on the stage directions in the score, explaining how the effects were achieved in the Berlin production. In order to clarify his clarification, however, it is necessary to turn to contemporary manuals of stagecraft. The three most useful in this regard are the *Theater-Lexikon* of 1841 by Düringer and Barthels, the *Allgemeines Theater-Lexikon* of 1846 by Blum, Herloßsohn, and Marggraf, and the *Deutsches Theater-Lexikon* of 1889 by Oppenheim and Gettke⁸.

Weber's description of the Wolf's Glen scene mentions three separate sound effects – a thunder machine, a crash machine, and a rain machine – while the score mentions another, the wind machine. The *Donnermaschine* normally consisted of a large drum set in a metal frame which was struck with a double-headed mallet. The method for recreating thunder varied greatly in different theatres, though. A sheet of iron or copper could be shaken to imitate the rolling of thunder, but this method was only effective for small rooms. A *Donnerwagen* consisted of a wheeled rectangular wooden box filled with stone that was drawn back and forth over an uneven portion of the stage. A fourth means of recreating thunder consisted of paper stretched on a wooden frame, dampened, and then struck with the hands as it was being dried over a coal fire. This was by far the most complicated, but it yielded the widest variation in tone quality through the use of frames of different sizes and through different rates of drying⁹.

The *Einschlagemaschine* created a similar sound to the *Donnermaschine*, but through two different methods. The first consisted of alternating boards and sheets of iron tied at each end on two ropes to create a series of parallel pieces about half an ell (22 ½ inches or 57.2 cm) apart resembling a rope ladder, which was then mounted on a pulley in the ceiling. The entire contraption was dropped on a hollow wooden floor to create a crash whose length was dependent on the number of pairs of boards and sheets of iron in the stack. The second method consisted of a channel in the floor through which stones or nuts could be dropped onto a large drum of sheet metal with a leather drumhead¹⁰.

The *Regenmaschine* was mounted above the stage and could be operated from stage level by pulling a cord. It normally consisted of a wooden drum with a head of parchment or wire sieve

⁶ Friedrich Hellwig (1782-1825)

⁷ The original manuscript is in the Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Musikabteilung (Weberiana Cl. II A g 2): *Einige Bemerkungen die Szenischen Anordnungen des Freyschützen betreffend*. The text is reprinted in Georg Schünemann (ed.), *Carl Maria von Weber. Der Freischütz. Nachbildung der Eigenschrift aus dem Besitz der Preussischen Staatsbibliothek*, Berlin 1942, pp. 64-65. Text follows the original.

⁸ Philipp Jakob Düringer and H. Barthels (eds.), *Theater-Lexikon*, Leipzig 1841; Robert Blum, Karl Herloßsohn, Hermann Marggraff, *Allgemeines Theater-Lexikon*, Neue Ausgabe, 7 vols., Altenburg, Leipzig 1846; Adolf Oppenheim and Ernst Gettke, *Deutsches Theater-Lexikon*, Leipzig 1889

⁹ Düringer and Barthels, op. cit., col. 326-327

¹⁰ Düringer and Barthels, op. cit., col. 347-348

that contained dried peas. When this was set in motion it created the illusion of rain. A similar effect could be achieved by simply shaking a wire sieve containing a few dried peas¹¹.

Finally, the *Windmaschine* consisted of a sort of drum mounted in a frame over which strips of coarse linen or horsehair were hung. The drum could then be rotated in its frame, slowly or quickly, depending on the volume of noise desired¹².

These sound effects were part of the stock-in-trade of all theatres in the 1820s, and therefore aroused little comment¹³. What drew the attention of audiences and critics to *Der Freischütz*, though, was the visual effects, which were not only extremely varied, but in some cases innovative as well. The first category of visual effects is one familiar to audiences today but apparently new in Weber's day, judging from his detailed descriptions. These effects involve the sudden appearance of persons from the rocky walls of the glen. Weber wrote to Hellwig:¹⁴

Samiel erschien in Berlin im Felsen. Kasper macht seinen Kreis etwas seitwärts, um den größten Theil des Theaters für die Erscheinungen frey zu halten. an der Kouliße steht dann ein FelsenStük das auf Marly¹⁵ gemahlt ist. hinter diesem ist eine Vorrichtung daß es von hinten schnell erleuchtet werden kann. so lange es dunkel ist, steht Samiel ungesehen dahinter, so wie es aber beleuchtet wird, bewährt der Marly /: oder grobe braune Gaçe :/ seine Durchsichtigkeit.

The effect involves semi-transparent cloth. As long as light falls on the front of the cloth, it is completely opaque. When there is light behind the cloth, however, it becomes transparent, and any objects behind it are visible. The sudden appearance of Samiel was made possible by an oil lantern with a shade that allowed it to switch from dark to light almost instantaneously. The 1841 dictionary also describes a mechanism whereby several lamps may be controlled simultaneously by one stage hand¹⁶. The figures of the mother and Agathe appeared in the same manner, behind painted scenery. In the Berlin production, these two female apparitions were played by children, presumably to make them appear more distant.

Surprisingly, neither of the dictionaries published during the 1840s discusses this technique. It had been known since at least the seventeenth century but apparently was not widely used in the theatre. During the early part of the nineteenth century, magic lantern shows using this translucent effect and other means of projection were a popular form of entertainment. The magic lantern seems to have made its debut in Berlin in an 1819 production of *Faust*¹⁷. That the technique was not discussed by Düringer or Blum is curious, but Weber's description cited

¹¹ Düringer and Barthels, op. cit., col. 918

¹² Düringer and Barthels, op. cit., col. 1132; Blum et al., op. cit., vol. 7, p. 223; Oppenheim and Gettke, op. cit., p. 853

¹³ All of the effects survived, with slight modifications, into the twentieth century. For photographs of wind, rain, thunder, and *Einschlag* machines as used in the 1920s, see Friedrich Kranich, *Bühnentechnik der Gegenwart*, 2 vols., München, Berlin 1929-1933, vol. 1, pp. 244-247

¹⁴ C. M. v. Weber, op. cit., f. 1r

¹⁵ *marly*, a cotton fabric, named after the French city of Marly-le-Roi and similar to gauze

¹⁶ Düringer and Barthels, op. cit., col. 139

¹⁷ Kranich, op. cit., vol. 1, p. 276, n. 1

above makes the effect clear.

A second category of visual effects involved figures of animals and other creatures that moved across the stage. These were mounted in channels in the floor or hung from wires above the stage and then pulled rapidly across during the scene. Weber identified the principal problem with these figures when he wrote: *da das Hüpfen der Waldvögel leicht lächerlich wird. ließ man nach Eins, auch Schlangen, und Kröten am Boden sich bewegen, und Fledermäuse an Drähten vorbeyschwirren*¹⁸.

The idea seems to have been to keep the audience so busy looking at new creatures that they had no time to laugh. The boar that runs past Kaspar during the casting of the second bullet runs in a channel behind him. Weber states that it does not need moving parts because it goes by so fast that no one will notice. The wild hunt during the casting of the fifth bullet called for yet another variation on this basic theme. In Weber's words:¹⁹

Die wilde Jagd. sind Figuren von Jägern, Hunden, Hirschen, als Skelette, oder den Hals umgedreht pp auf Leinwand gemahlt, weiß und grau, und dann ausgeschnitten, wieder auf Marly geklebt und so in langen Streifen und Zügen unter den Soffitten über das Theater gezogen. da man den Marly nicht sieht, so schweben alle Gestalten frey in der Luft.

These creatures all moved by rapidly enough that the audience could not examine them closely. There was however one creature, the owl, that was subject to closer scrutiny because it remained on stage during the entire scene. Weber specified that the owl's head and wings must move and its eyes must glow. The moving wings proved to be the bane of this production, as a contemporary review mentioned a performance during which the owl lifted only one of its wings²⁰.

The shining eyes of the owl could be achieved with colored glass and a flame inside the body. George Bernard Shaw described the owl in an 1894 performance at Drury Lane in London:²¹

And yet nobody could help laughing [...] The owl alone would have sufficed to set me off, because, though its eyes were not red like those of previous stage owls, and it was therefore not so irresistibly suggestive of a railway signal as I had expected, one of its eyes was much larger than the other, so that it seemed to contemplate the house derisively through a single eyeglass.

Both Weber and Shaw make a telling point about the moving creatures – they could easily be laughable, spoiling the effect of this scene. The third general category of effects, those involving fire, was not so easy for the audience to laugh at because of the history of the theatre in which the premiere was performed.

As noted, *Der Freischütz* was the first opera performed in the Neues Schauspielhaus, a magnificent neo-classical structure designed by the eminent architect Karl Friedrich Schinkel. The theatre was built on the foundations of the previous theatre, a building so large and uninspiring that it had earned the nickname *Der Koffer*. The building has been designed and built by Karl

¹⁸ C. M. v. Weber, op. cit., f. 1 v

¹⁹ C. M. v. Weber, op. cit., f. 1 v

²⁰ John Warrack, *Carl Maria von Weber*, 2nd ed., Cambridge 1976, p. 248

²¹ George Bernard Shaw, *Music in London 1890-94*, London 1932, vol. 3, p. 265

Gotthard Langhans²² in 1800/1801 and was scheduled for renovation when it was destroyed by fire on 29 July 1817²³. An important part of Schinkel's plan for the new building was an innovative fire-safety system, but this must have provided small comfort for the audience when they discovered that the first opera in the new theatre involved so much smoke and fire.

After the appearance and disappearance of Samiel at the beginning of the Wolf's Glen scene, the skull that Kaspar has mutilated with a hunting knife descends through a trap door, out of which a small charcoal fire emerges. Weber notes: *hingegen liegt etwas Pulver von bengalischem Feuer, oder sonstig grünlich brennendes dabei, wovon Kasper unbemerkt vom Zuschauer zuweilen etwas in die Kohlen wirft*²⁴.

The 1889 dictionary states, *das elektrische Licht hat auch die Beleuchtung von Tableaux u. s. w. durch bengalisches Feuer verdrängt; nur kleinere Bühnen wenden das B.-F. an*²⁵. In Weber's day, however, the practice was still alive and well. Bengali fire was one of many chemical substances used to create flames of different colors. The dictionary of 1841 describes the mixing of these substances and their theatrical uses in considerable detail, providing formulae for *bengalisches, blaues, gelbes, griechisches, grünes, rothes and weisses Feuer (Indisches Feuer)*²⁶. The principal ingredients of these formulae are saltpeter, sulfur, resin, and pitch in various proportions, with the color provided by arsenic, sulfuric acid and other agents. The 1841 *Lexikon* gives five different methods of creating green fire, although the one recommended for theatrical use is a mixture of 130 parts *salpetersaurer Baryt* [barium nitrate], 32 parts *Schwefel* [sulfur] and 50 parts *Chlorkalischwefel* [probably a compound of potassium chlorate and sulfur]. Bengali fire, said to have been discovered by the British in the East Indies and refined for use in the theatre, consisted of 24 parts saltpeter, seven parts flowers of sulfur, and two parts red arsenic. The fumes from Bengali fire are so noxious that the editors add this warning, which also attest to the growing fame of Weber's opera by 1841:²⁷

Werden solche Feuer im Laufe einer Vorstellung (wo es gewöhnlich zum Schlusse eines Actes geschieht) gebraucht, wie z. B. im Freischützen, so müssen im Zwischenacte sofort alle Fenster des Bühnenraumes, besonders die oberen, geöffnet werden, damit der Dampf sich schnell verzieht, der, wie gesagt, den Schauspielern oder Sängern schon im Momente Beschwerden genug verursacht.

By throwing a handful of the chemical onto the smoldering coals at strategic moments, Kaspar created a dazzling display of colored flames. The 1889 dictionary also describes a method for

²² Karl Gotthard Langhans (1732-1808)

²³ E. T. A. Hoffmann, who lived in a building directly behind the theatre, witnessed the conflagration first hand, commenting on the heroics of the firemen in keeping the flames from spreading to surrounding buildings (see E. T. A. Hoffmann, *Briefwechsel*, ed. by Friedrich Schnapp, München 1967-1968, vol. 2, p. 147).

²⁴ C. M. v. Weber, op. cit., f. 1v

²⁵ Oppenheim and Gettke, op. cit., p. 96

²⁶ Düringer and Barthels, op. cit., col. 145/6, 162/3, 518, 540, 543, 946/7, 1130/31. Additional formulae, including some for lilac and purple fire, may be found in Terence Rees, *Theatre Lighting in the Age of Gas*, London 1978, appendix 2.

²⁷ Düringer and Barthels, op. cit., col. 146

shooting flames of Bengali fire out of holes in the stage, which it says are typically employed in *Der Freischütz*. These are called for in the score during the final climactic storm of the Wolf's Glen scene. Weber's notes also call for will-o'-the-wisps, consisting of sponges soaked in alcohol and set on fire. The composer states that these and the flames shooting out of the earth must be *häufig*.

Perhaps the most dazzling of the pyrotechnic effects was the staging of the fiery wheels of the fourth bullet. Weber described in detail the method for constructing these wheels:²⁸

Die Feuerigen Räder, sind leichte Reifen an einer Stellage; die in dem Kanal übers Theater läuft



an diesen Rädern die sich natürlich an einer Axe

drehn, sind kleine Raketen befestiget. sobald diese angezündet sind drehen sie von selbst die Räder mit Schnelligkeit.

The lighter the wheels and the more numerous the rockets attached to them, the faster they would spin. One can imagine that as the fumes from the Bengali fire wafted through the audience and Weber's gripping orchestral score set the tone for this chilling scene of devil worship, it must have been a moment of sheer terror when the wildly spinning wheels hurtled through the air, spewing sparks onto the stage and into the wings.

In a letter to Goethe in Weimar, Carl Friedrich Zelter summed up the popularity of *Der Freischütz* with the words: *Die Musik findet großen Beifall und ist in der That so gut daß das Publicum den vielen Kohlen- und Pulverdampf nicht unerträglich findet*²⁹. Like many critics of this opera, he felt that the special effects somehow detracted from the artistic merit of an otherwise fine work. On the contrary, I believe the effects were crucial to *Der Freischütz*, not only in making it appealing for a popular audience, but in contributing to the overall artistic impression. More than any other work of the period, *Der Freischütz* was a multi-sensory experience, affecting not only the sense of hearing, but also the senses of sight and smell, and if the smoke was thick enough, even the sense of taste.

A modern-day production cannot hope to replicate the special effects of the premiere. 175 years of theatrical development have rendered most of them ineffectual, and in some cases, illegal. In order to recreate the impression of the original production, however, the Wolf's Glen scene must do two things. First, it must somehow frighten the audience. This scene will never be effective if the audience does not receive several good jolts of fear. Second, as in Weber's day, the audience members must feel that their space has somehow been invaded, whether by smoke and sparks or by flying objects over their heads. A production that does not invade the audience's space, simultaneously surprising them and frightening them, is simply not in the spirit of the original production.

A recent production of this opera that is available on video is an excellent example of the way directors have lost sight of the original intentions of Gropius and his crew. The orchestra and singers sound fabulous, but at the point when the score calls for fiery wheels, what appear to be two wagon wheels strung with Christmas lights are rolled from the back of the stage. They

²⁸ C. M. v. Weber, op. cit., f. 1v

²⁹ *Briefwechsel zwischen Goethe und Zelter in den Jahren 1796 bis 1832*, ed. by Friedrich Wilhelm Riemer, vol. 3 (Die Jahre 1819-1824), Berlin 1834, p. 192 (Nr. 370, 5 September 1821)

move so slowly that they wobble and eventually fall to the stage, where they lie for the rest of the scene, blinking with Christmas cheer.

The function of the special effects in any production of *Der Freischütz* must be to create a sense of the supernatural. Already in 1894, though, Shaw observed that the task was not so easy as it had been in Weber's day:³⁰

To appeal to our extinct sense of the supernatural by means that outrage our heightened sense of the natural is to court ridicule. Pasteboard pies and paper flowers are being banished from the stage by the growth of that power of accurate observation which is commonly called cynicism by those who have not got it; and impossible bats and owls must be banished with them. Der Freischütz may be depended on to suggest plenty of phantasmagoria without help from out-of-date stage machinists and property masters.

Can *Der Freischütz* work in an age of cynicism and secularism? If so, it must be a production, like the original, that appeals to more than just the ears of the listeners. Weber and Gropius recognized that their work combined visuality with music, and the care they took with special effects helped make the highly improbable plot palatable. Today, when George Lucas and Steven Spielberg can use special effects to make millions believe in cuddly extraterrestrials and the power of the lost Ark of the Covenant, a viable production of *Der Freischütz* does not seem so far-fetched after all.

MUTTER LUDLAM'S GEPLAGTER SOHN

Weber und die Wiener Ludlamshöhle

von Lucia Porhansl, Wien, und Frank Ziegler, Berlin

Der freundschaftliche Austausch mit Gleichgesinnten, der gesellige Kontakt mit Künstlern und Intellektuellen blieb für Weber zeitlebens ein Quell persönlicher Bereicherung und künstlerischer Produktivität. Sein Bedürfnis nach einer schöpferischen Atmosphäre manifestiert sich nicht zuletzt in seiner Verbindung zu Künstlervereinigungen, wie man sie sich unterschiedlicher kaum denken kann: War es in der Mannheimer und Darmstädter Zeit der gemeinsam mit Gottfried Weber und den Studienfreunden Jakob L. Beer (G. Meyerbeer) und Johann Gänsbacher begründete *Harmonische Verein* mit seinen hochfliegenden Plänen zur Förderung moderner (besonders natürlich auch eigener) Musikwerke, so fand Weber 1812 in der Berliner *Liedertafel* von Carl Friedrich Zelter, einer elitären Männerrunde, die dem Essen und Trinken wenigstens ebenso huldigte wie dem Gesang, wichtige Freunde und Wegbegleiter. In Dresden schließlich war es der von Literaten dominierte *Dichterthee*, später *Liederkreis*, der einzige dieser Vereine mit Frauenbeteiligung übrigens¹, in dem Weber Entspannung vom aufreibenden Kapellmeister-Dienst und künstlerische Anregungen suchte. Zugang zu einem wiederum gänzlich anders gearteten Kreis von Intellektuellen erhielt der Komponist in Wien: zur *Ludlamshöhle*.

³⁰ Shaw, op. cit., vol. 3, p. 266

¹ Die Berliner *Liedertafel* veranstaltete nur gelegentlich sogenannte "gemischte Tafeln", zu denen auch Frauen zugelassen waren.