“Electric Music” on the Victorian Stage: The Forgotten Work of J.B. Schalkenbach

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Sound art has antecedents in the acoustical wonder-working of the ancients and in the metaphysically oriented secret teachings of the Pythagoreans. However, it was with the refinement of mechanics and electromagnetism in the 19th century that sound art would mature as an art form. Sound art did not exist as a standalone art form as we know it now; the aversion of the delicate Victorian ear to discords ensured that clear distinctions were drawn between musical parts of a performance and “descriptive” parts. Descriptive elements encompassed the imitations, instrumental or otherwise, of real-world sounds within music. Percy Scholes wrote disparagingly of this “cruder kind of ‘programme music,’” drawing attention to its short-lived popularity in “uncultured circles” [1].

It was, however, an anachronistic precursor to the 20th-century Futurist Intonarumori [2] and Russian abstract industrial symphonies [3]. Certain artistes exerted considerable efforts in designing mechanisms for producing such descriptive flourishes, and the most pioneering was Johann Baptist Schalkenbach (1824–1910) (Fig. 1)—an inventive acoustician who, in the 1860s, began employing electricity to remotely trigger descriptive effects placed on a par with the music itself [4,5]. These efforts occupied a man’s land between science, art and music that is today designated as sound art.

Schalkenbach was born in Trier, in what was then part of the Prussian Rhineland, but would spend most of his adult life in Britain. He studied music under Moritz Hauptmann at the Leipzig Conservatory before traveling to France, and in 1861 he filed a patent for an instrument he called the “Piano-Orchestre” (Fig. 2). After this was granted in the autumn of the following year [6], Schalkenbach arrived in England.

The patent illustrates an amalgamation of a reed harmonium, a second smaller accordion-like harmonium (known as a “harmoniflete”) linked to the main harmonium bellows, a row of bells, tam-tams, triangles, drums, cymbals and whistle pipes—all operated by keys or stops. The keys controlling the drum parts were connected to beaters on springs, producing drum-rolls. Whilst playing the harmonium, the player would be able to control the percussion controls using the forearm or wrist. Additionally, any combination of harmonium keys could be temporarily locked down into position to sustain their tones, allowing the player to perform elsewhere simultaneously (Fig. 3).

Two large funnels were coupled onto the sound-holes of the harmonium, transforming the reed tones. The funnels, respectively, contained a “tremolo valve” within the throat, interrupting the current of air flowing out, adding tremolo. This valve was basically a hinged “clapper” that would periodically shudder with the pressure of the harmonium’s sound-filled exhaust.

One curious soundmaking feature was a hollow ball placed beside an air valve. Schalkenbach writes:

When this valve is opened by means of a stop placed beside it, the air enters the ball (which turns freely on its axis) through a hole, and by this means, according to the position of the ball, sounds are produced which are sometimes like the whistle of a locomotive, sometimes like the raging of a storm [7].

Le Monde Illustré reported that the “Piano-Orchestre Électro-Moteur” featured electromagnetic elements activated by nine buttons [8], yet the patent did not detail these electrical attributes (most likely employing solenoid-like mechanisms).

The absence of electric elements in the patent was possibly due to their constituting an infringement of an existing patent. An electrical method of remotely playing keyed instruments had been previously patented by Alexander Bain in 1847 [9], and designs for electric doorbells were also starting to appear. The magician John Henry Anderson had used the same principle to create spirit rappings in the 1850s [10] (Fig. 4). Another magician, Robert-Houdin, also employed electromagnetism, notably in an extravagant doorbell and door-entry system at his house [11].

In June 1863, at one of Schalkenbach’s earliest performances in Britain, the “Grand Piano Orchestre” was said to

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have combined 26 instruments, upon which he played selections from popular operas [12]. In late 1864, it was reported that Schalkenbach was using 16 elements of zinc and carbon inserted into mercury bisulphate (this battery required cleaning and replenishing every 6 months). The battery poles were connected to electromagnets and brought into action by controls on the main instrument [13]. Descriptive, militaristic pieces were played, featuring remotely discharged pistols and many other “startling effects.” It was said that the instrument had a capacity beyond all existing instruments in effectively rendering “destructive pieces” [14] and also that a remotely played drum, suspended from the ceiling, was suggestive of the Davenport Brothers’ spiritualist séances [15].

In December 1866 Schalkenbach appeared with his “Piano Orchestre with Electric Motion” as part of the Royal Polytechnic Institution’s Christmas season. He became unofficial resident organist here for about 4 years. Although the Polytechnic was renowned principally for its visual exhibitions [16], there were also many acoustical exhibits, including “whispering galleries,” advanced noise-off sound effects accompanying magic lantern projections, lectures on “Acoustic Illusions” and music of the world, variations of the famous talking head of Albertus Magnus, Charles Wheatstone’s acoustic “telephonic concert,” and radical musical instruments.

Schalkenbach’s setup was installed in the Polytechnic’s Great Hall and performed upon daily. This hall also contained an automaton called “The Automatic Leotard”—a life-size mechanical trapeze artiste—designed by Francis Seraphicus Pichler [17], a colleague of Schalkenbach’s (and later his spouse’s brother-in-law). Pichler was a Hungarian harmonium-maker who provided experimental acoustical apparatus for John Henry Pepper’s projects [18]. Schalkenbach would often meet with Pichler at his instrument shop at 162 Great Portland Street. In the creative and inspiring environment of the Royal Polytechnic, and with the close acquaintance of Pichler, Schalkenbach was enabled to refine his setup further.

Jeremy Brooker, in his study of the role of music at the Polytechnic, tentatively suggests that the “musical possibilities” of Schalkenbach’s instrument might have influenced the institution’s decision to purchase an in-house electric-action organ in 1868, manufactured by Bryceson [19], that Schalkenbach would also play upon [20]. Indeed, Schalkenbach’s electro-musical ideas frequently caught on, as we shall see below.

**AFTER THE POLYTECHNIC**

By May 1871 Schalkenbach returned to concentrate once again on developing what he now called his “Orchestre Militaire Electro-Moteur.” A long engagement saw the instrument supporting a minstrel troupe, during which time he integrated one of the spectacles seen at the Royal Polytechnic: the influence of the “Great Lightning Inductorium” (capable of producing a spark of 27 inches [21]) is apparent in Schalkenbach’s exploitation of “lightning” effects.

Due to the complexity of the setup and Schalkenbach’s energetic performances (he was said to appear as if he had “twenty arms and as many legs, all performing at once” [22]), some reviewers had difficulty discerning between the effects electrically produced and those mechanically produced—an ambiguity Schalkenbach no doubt played upon.

One of Schalkenbach’s sketches formed a descriptive musical fantasia: an Alpine village fête interrupted by a thunderstorm, with accompaniments of “howling wind, pattering rain, and flashing lightning.” The lightning is reported to have been “the genuine article, without the slightest adulteration, Herr Schalkenbach having in his new musical machine an unlimited stock of the commodity on hand” [23].

Another novel instrumental addition at this time was the “Electro-Zither,” said to be particularly effective during softer passages, from which “long and sustained notes” were obtained “by electric agency” [24]. A review noted how “a very singular effect is produced by the continuation of sound which is kept up by the agency of electricity upon the strings of the instrument” [25]. This feature was alluded to in other reports as the “Aeolian Harp,” but it is uncertain how the effect was achieved. It would be futile to speculate, but electromagnetically resonating a metal pianoforte string had been achieved in the 1840s by Auguste de la Rive [26]. It involved feeding a coil, in close proximity to the string, with a pulse-train of current at an arbitrary frequency. (If a similar system was employed, Schalkenbach’s *electric* instrument would approach nearer the definition of an *electronic* instrument).

**“MAGNETIC MUSIC OF THE SPIRITUAL WORLD”**

In November 1873, Schalkenbach began a residency at the Lyric Hall on Great Portland Street, close to both the Royal Polytechnic and Francis Pichler’s dwell-
ings, where he was now lodging. Here, Schalkenbach added controls for “brilliantly coloured lights” with “electrical effects which would put ordinary pyrotechnic displays altogether in the shade” [27,28], all whilst keeping up a “complete instrumental concert” [29]. Reports also tell of a striking acoustic effect, possibly associated with the Electro-Zither: “dulcet strains of peace” [30] emanating from different parts of the hall.

Schalkenbach developed dynamically varied musical sketches to fully demonstrate the capabilities of the instrument. For instance, the man-o’-war ship sketch described a ship docked in port, the arrival of the Navy, the departure, an approaching storm, a mariners’ prayer, the ensuing relief at being out of danger, a military parade on board, followed by sighting of the enemy, the battle climax, victory and the finale [31]. Such scenes featured the bold tone combinations of the main instrument, along with “drums, bells and clappers” electrically sounded, trumpets sounding in at least two places at once, “the distant roar of artillery,” “the clashing of cymbals” and “the shrill note of the ear-piercing fife” [32]. The instrument also facilitated the firing of miniature cannons from distant parts of the hall. The music was said to be composed by Schalkenbach himself [33], making it some of the earliest original scored material for an electrical instrument.

It is very interesting to note that, in contrast to the occlusions of stage magic, Schalkenbach openly offered to explain all about the inner workings of his instrument in the summer of 1874. He issued an advertisement in The Era:

In answer to many applications, Herr Schalkenbach is now ready to supply, or to give all necessary information for the construction of the various Electro-Musical Instruments and Appliances as used in his Entertainments during the last Fourteen Years, viz., Electric-String Instruments, Trumpets, Chimes, Bells, Cuckoo, Birds’ Song, Drums, Triangles, Castenettes, Tambourines, Sledge Bells, Slash of Whips, Bagpipes, etc. Instruments in direct communication with the keys of Piano, Harp, Organ; or, if desired, Musical Boxes with Electric Arrangement for Releasing of flywheel. Imitation by Electricity of Thunder, Rain, Roaring of Waves, Lightning, Marching of Troops, Galloping of Horses, Locomotive in Motion, Electric Cannon, Mitrailleuse, Pistols, Rockets, Optical Music with Vacuum Tubes, etc., &c.

Instruction given in the use of all the above, be it for Solo Performance or in conjunction with the Orchestre [34].

In May 1875, Schalkenbach’s organ was destroyed by a fire at a Liverpool music hall. He had insured it for £900, although he estimated its material value to be £1000 [35]. Nevertheless, by November he had rebuilt the instrument and was performing again (see Fig. 6).

MASKELYNE AND COOKE

One of the most significant engagements in Schalkenbach’s career was with the celebrated magicians Maskelyne and Cooke at the Egyptian Hall, beginning late in December 1876 [36]. It is curious to note that in Schalkenbach’s aforementioned advert he mentions “musical boxes with electric arrangement for releasing of flywheel,” and some months prior to his engagement, in August 1876, Maskelyne and Cooke exhibited a Spirit Musical Box: a music box suspended from the ceiling, playing songs on command. There was also exhibited a “Mystic and Oracular Tambourine”—placed among the audience in the center of the hall—answering questions by percussive tapping [37]. Both are suggestive of Schalkenbach’s handiwork.

Maskelyne and Cooke would often feature musical-acoustic oddities on their bill. Schalkenbach had taken over from Thomas Manton who had previously been engaged playing a musical glass instrument, the “Crystaphonicon” [38].

As well as playing between illusions, Schalkenbach’s Orchestre Militaire also accompanied illusions, including that of Mr. Cooke levitating in the air, “surrounded by spirit flames,” accompanied by a “triumphal march” with remote bells, tambourines, etc. [39].

PIANO-HARMONIC

When Schalkenbach’s Egyptian Hall engagement concluded in April 1877, he obtained a patent for another ground-breaking acoustical innovation, the “Piano Harmonic,” which specified that pedals could be added to pianos, enabling special damper heads to make gentle contact with strings at their nodal points to transpose any keyed notes into their respective harmonics (he suggests the octave, the fifth, the double octave and the third of the double octave) [40].

With his earlier patent, there are no electrical aspects. It is not known to what extent this was adapted to the Orchestre Militaire, but its existence demonstrates how sophisticated Schalkenbach’s ideas were, and such an effect could easily mislead an unknowing audience into believing an electrical agency was at work.

THE 1880S

Even more electrical additions were added to the instrument in its music hall engagements in the 1880s. One press release enthused that the “Orchestre du Diable” (as it had been temporarily restyled) “quite surpasses the telephone
in its astonishing powers" [41]. By 1881, Schalkenbach was experimenting with the feature of rigging bare wires on certain seats in the audience, allowing him to shock unsuspecting members of the audience at key moments [42].

A review from July 1883 illustrates how sprawling the Orchestre Militaire had become:

Round the theatre . . . connected by wires with the instrument, are subsidiary musical instruments, such as three German zithers fixed on one sounding board, peals of bells, a number of trumpets, a small electric railway train carrying on the engine an incandescent lamp, a windmill, a church, a catacomb, and the warlike implements. . . . Not only a series of martial airs were performed, with the accompaniment of the detached zithers, bells, trumpets, drums and gongs, but guns were discharged, the mitailleuse growled out its murderous volleys, a thunderstorm was simulated with torrents of rain and rushes of wind, the church was struck by lightning, the catacomb thrown upon, disclosing a cross illuminated by an electric lamp, with a choir of angels chanting around it; and, finally, the passing away of the storm clouds, giving glimpses of the moon and a triumphal illumination of the Orchestre Militaire.

The same review also gives a rare overview of its electrical arrangements, involving “insulated wires, a bichromate battery of twenty-six cells, four Geyselers [Geissler] Vacuum tubes, with Rhumkorf coils, and a multiplicity of ingenious appliances for their application” [43].

Mephisto (or, Stealing Schalkenbach’s Thunder)
The 1880s saw many imitations of Schalkenbach’s work [44]. It was common for music hall acts to pirate other acts—copycats were called “duffers.” One such copycat instrument sprang up at Schalkenbach’s old stomping ground, the Egyptian Hall. This instrument was styled as the “electric and automatic Orchestraphone,” but later renamed “Maskelyne’s Automatic Orchestra,” without allusions to electricity (which would somewhat “give the game away” in a stage-magic setting). All the key elements of Schalkenbach’s act were present, but it is possible that this derivation had Schalkenbach’s blessing, given his previous involvement with Maskelyne and Cooke.

By far the most interesting performers to have appropriated Schalkenbach’s work suddenly appeared in Birmingham in September 1884. It was presented under the name “Mephisto” by two younger variety hall serio-comics, H.F. Juleene and Dot D’Alcorn (Fig. 5), who had no previous recorded dabbings in electricity. Appropriately enough, both were skilled at impersonation.

The Mephisto title may originate from a description of Schalkenbach himself: In July 1883, one enthusiastic reporter had written, “[Schalkenbach] might be taken for an electrical Mephistopheles, for sparks are flying round his head and appear to be scattered from the ends of his fingers, while his very eyes seem to emit lightning” [45].

H.F. Juleene began his stage career in the mid-1860s as a skater, later adopting musical and character skits [46]. His adverts give a flavor of his repertoire: performing as “German, Dutch, Swiss, Italian, Chinese, Japanese, Portuguese, Spaniard, Skating Market Girl, Mandoline Soloist, and forty others” [47]. Juleene’s real name was John Parsons (c. 1842–1905); he was the son of a Warwickshire drysalter.

Around May 1880, Juleene unveiled his new entertainment, “The Musician, Poet, and Painter, and Enchanted Studio,” featuring many songs and impersonations. He toured the music halls with this show for a year—receiving lukewarm reviews—before the actress and pianist Dot D’Alcorn was taken on as a notable co-performer. By the summer of 1882, Juleene and D’Alcorn were regularly billed together. D’Alcorn’s real name was Susette D’Alcorn (c. 1859–1903), a daughter of the music publisher Henri D’Alcorn (who had likewise altered his name from George Henry Stannard Allcorn; he was noted as an expert in copyright law [48]).

In early October 1883, Juleene and D’Alcorn were featured together in the same theater company as Schalkenbach—a significant convergence [49].
Evidently inspired by Schalkenbach, in 1884 they unveiled their Mephisto, unashamedly billed as all new and original. ELECTRICAL MARVELLOUS MOTORS, MYSTIFYING MORTALS, Manufactured by H. F. Juleene, who has travelled the world, and brought together all that Art could devise or Money command to make this what it has proved, the greatest novelty on the surface of the earth [50].

To their credit, the act derived some originality from D’Alcorn’s role as possibly the first female professional “electric musician” [51] performer. To put this into perspective, “electric musician” was a sensationalistic styling typically encompassing mere illumination, as seen with the so-called electric musician Herr Tholen—a comic musician with an electric light bulb affixed to his nose. Another instance is seen in the “electrical musical” interludes of singer Harriet Laurie (a.k.a. “The Electric Star”), who was herself a pioneer with her electrically lit outfits but did not perform electrically actuated music. (Significantly, Laurie was also on the same bill with Schalkenbach, Juleene and D’Alcorn in October 1883.)

The extraordinarily grandiose adverts Juleene unremittingly submitted to The Era were heedless of Schalkenbach’s life’s work. These adverts display high admiration for D’Alcorn: praised as “the only lady electrician on the terrestrial orbit,” a “brilliant vocalist,” etc. [52]. D’Alcorn wore full Mephistophelian costume whilst playing the electric keyboard, producing “hundreds of effects never before introduced on earth” fixed around the hall [53]. Juleene’s bombastic praises for D’Alcorn weren’t merely superficial advertisements, but heartfelt encomiums, as they were eventually married in June 1889.

A rattled Schalkenbach responded by arranging for a message to be placed atop the next Mephisto advert published on 20 September 1884:

HERR J.B. SCHALKENBACH . . . The sole inventor, patentee, and only performer on the Orchestre Militaire Electro-Moteur, frequently called “The Electric Organ,” takes this opportunity of informing the musical world in general, and all whom it may concern, that twenty-three years ago, and previous to his renowned performances before His Majesty the late Emperor of France, he invented and patented the above for England, France, Prussia, Bavaria, Italy, Russia, North and South America, &c., that the patent rights have long since lapsed, and, in consequence, any person is at liberty to imitate the same.

Herr Schalkenbach, in the interest of science and art (even against his own interest), has been, and is always ready, to explain his system to those who are desirous of acquiring knowledge in this direction, and offers them the same facilities he extended to others who have asked permission to imitate some of his effects, and to whom he has given every instruction.

Herr Schalkenbach, having kept pace with the progress of electrical and acoustical science, and manifesting this in the various additions and improvements he is continually making to his instrument, is still giving exhibitions... [54]

The next Mephisto advert brazenly reported that “electricity, that master of all sciences, in the hands of JULEENE, has accomplished more than was expected from an Englishman.” Ironically, Juleene, who had adopted his foreign stage name for exotic grandeur, was now compelled to boast of his nationality. He announced that the instrument had cost £2,500 to build, and ends with a parting shot at Schalkenbach: “there are a few dogs that growl, but we do not fear them” [55].

In another Mephisto advert Juleene writes:

Am not indebted to any foreign instructor. Every foreign importation is improved upon in the hands of Old John Bull. I shall be pleased to give gratuitous information and instruction to any one wishing to acquire knowledge in this direction, and not try to mislead them when commencing operations [56].

Above this advert appeared a strategically placed notice by a colleague of Schalkenbach’s—the champion skater and swordsman Thomas Henry Crowther:

ELECTROMANIA. Managers would do wisely to remember the old proverb, “the biggest balloon when exhausted of gas goes into a very ordinary hamper,” in reading advertisements of a certain electrofanatic, who can learn no more in this
terrestrial orbit, but when acts, and not words, speak, has a very base public imitation. ELECTROMANIA. By permission and assistance of Herr Schalkenbach. “Electromania” eclipsing nature herself. “Electromania” is in its thirtieth month of preparation. Includes every phenomenon discovered, and several items never seen or imagined, and will be in readiness for Pantomime of ’84–’85 [57].

Crowther had actually been preparing an entertainment of his own called Electromania—announced in November 1883 [58] (whilst Mephisto was also in preparation). Of a similar age, and in the same orbits as Juleene, they were likely acquainted but evidently on less than friendly terms. Crowther’s Electromania entertainment is not well documented, and he is seen in the “For Sale” column of The Era in May 1885, offering his own electrical apparatus shortly before his departure on a world tour with his sword and skating act:

An elaborate and comprehensive ELECTRIC EXHIBITION of working novelties, a la Herr Schalkenbach. To be sold for under one-fourth of the original cost, including four octaves electric bells, giant microscope, arc and incandescent lamps, railways, church, windmill, scenery, fitting with vacuum tubes, lightning tubes, magnets, several kinds of powerful intensity coils giving 18 in. spark, batteries, tambourines, castanets, triangles, bells, &c. In fact, only requires fixing up to be a first-class show. Price to an immediate purchaser seventy-five guineas. T.H. CROWTHER [59, 60].

Meanwhile, Juleene and D’Alcorn began stating that their act had been patented: “PATENTED. Argument flattened into oblivion. Can’t help it” [61] (starting in September 1884). Apparently, no attempt had been made to patent Mephisto [62]; this was a deception typical of music hall hubris.

Mephisto was said to produce from a single keyboard the effects of an organ, harmonium, “full orchestra,” seven brass drums, castanets, bugles, silver tambourines, thirty silver bells, triangles, torpedoes, Turkish cymbals, lightning, thunder, hail and rain storms, shipwreck and light-house, wind and water mills in motion, mocking birds and cuckoo, “Anvil Chorus,” “Musical Soup Kitchen,” an electric illuminated railway, the ascent of a balloon and “electric shocks everywhere” (via seat electrification à la Schalkenbach) [63]. Juleene writes that a week of setting up and two tons of wire and machinery are necessary for Mephisto’s production, with, reportedly, 23 electromagnets, seven electro-motors, 23 contact-breakers, and three intensity coils (“the larger permitting a naked spark of ten inches”) [64].

Juleene and D’Alcorn’s Mephisto achieved much success, as they toured British “provinces” untrodden by Schalkenbach. They also embarked on overseas tours to the U.S.A. and to Australia—continents where Schalkenbach had not performed.

There was one unfortunate incident in the U.S.A. when seats were electrified via the Mephisto instrument. An unlucky old soldier in one of these seats received a shock during a concert in Chicago and tried to sue both the proprietor and Juleene. However, the U.S. tour was, on the whole, successful, as they were offered another engagement by Thomas Edison, for the 1893 Chicago Exhibition [65].

Juleene and D’Alcorn continued touring with Mephisto (mostly across Britain) for the rest of their career—up until the early 1900s—with the electrical centerpiece variously styled as an “Orchestre Electrique Infernal” or “Orchestre Infernale” [66].

Schalkenbach also continued touring, but failed in 1891 to obtain a new patent relating to pianos [67]. By 1895, it was apparent his work was being superseded by Maskelyne and Cooke’s apparatus at the Egyptian Hall (played by Francois Cramer): “the wonderful combination of instruments . . . is to Schalkenbach’s contrivance what the electric light is to gas” [68]. At the same time, descriptive effects were falling out of favor as music grew more tonally complex [69]. Elsewhere, sound reproduction technology developed apace. The use of electricity on stage to create wonder was also moving away from the use of wires, toward wirelessly activated apparatus using primitive coherers [70].

References and Notes

Sound Experiments in the Russian Avant-Garde (ReR Megacorp [Broken Silence], 2008).
7. See [6]. In 1925, years after Schalkenbach’s death, his lone son Nicholas Frank (or “Franz”) Schalkenbach emigrated to New York, where he patented a storm-simulating instrument, shedding some light on his father’s apparatus. See Patent, F. Schalkenbach, Storm Simulating Device, US 1754446 (1929). It is intricately mechanical, featuring bellows with J.B. Schalkenbach’s hollow “wind ball,” accompanied by a controlled flow of buckshot rolling down channels of various textures. He died soon after filing the patent.
15. See [14].
17. A former assistant to Charles Wheatstone.
19. This instrument was an organ played by a remotely situated pianoforte electric switchboard.
22. Era (14 May 1871).
23. Era (4 June 1871).
25. Era (14 May 1871).
27. The subheading of this section quotes Era (27 April 1873).
29. The Hornet (6 December 1873).
30. The Morning Post (28 November 1873).
31. Era (8 February 1874).
32. The Morning Post (15 May 1871).
33. The Morning Post [52].
34. Era (31 May 1874).
37. Maskelyne & Cooke, the Royal Illusionists and Anti-Spiritualists (London: Egyptian Hall, c.1877).
38. Thomas Manton’s “Crystalophicon” (a.k.a. “Cristalopeon,” or “Ophonic Crystal”) consisted of 32 empty glass goblets, chromatically tuned and played with the fingers.
41. Era (7 April 1878).
42. Era (2 July 1881).
43. The Standard (3 July 1883).
44. Although an early imitation is seen with “Professor Beaumont” (“The Royal Necromancer” a.k.a. John Beaumont) in the mid-1870s.
45. Era (7 July 1883).
46. Juleene and Schalkenbach briefly shared an agent in the early 1870s.
47. Era (26 January 1879).
49. “Queen’s Palace of Varieties,” Reynolds’ Newspaper (7 October 1885). Also see advertisement in same newspaper, 30 September without Juleene.
50. Era (6 September 1884).
51. Era (29 November 1884).
52. Era (13 September 1884).
53. Era (11 October 1884).
54. Era (20 September 1884).
55. Era (4 October 1884).
56. Era [53].
57. Era [53].
58. Era (24 November 1883).
59. Era (2 May 1885).
60. Another flagrant Schalkenbach copycat was the enigmatic Herr Renier (appearing in 1887—possibly a purchaser of Crowther’s apparatus) with his “Grand Electric Orchestra Militaire.” In 1890 he found himself stranded in Australia following an unprofitable tour with a theater company.
62. Juleene did however patent a quack medicine in 1889 for treating “gout or rheumatism,” where ingredients were subjected to an electric current for six hours (allegedly to improve their efficacy): Patent, H.F. Juleene, An Improved Liniment or Emulsion, GB 10217 (1889).
63. Era (30 May 1885).
65. Era (3 December 1892).
68. Era (18 May 1895).
71. Le Monde illustré [8].
72. Anderson [10].
73. Sheet music, We’ll Stick to the Colours: Miss Dottie D’Alcorn’s Great Song (London: Howard & Co., 1883).
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