

A Sublime Invasion: Meyerbeer, Balzac, and the Opera Machine

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MEYERBEER'S MATERIALS

Pity the Meyerbeer enthusiast. The slow struggle to rehabilitate the once mighty and internationally beloved composer is far from complete. Recent years have seen a surge in scholarship—including a number of book-length studies, the publication of his diaries, and, importantly, essays that interrogate the origins of the enduring prejudices against Meyerbeer.¹ Despite these efforts, performances of his operas are still rare, only limited audio and video recordings are available, and, even if recent scholarship has been kinder, the choice of Meyerbeer as a subject for inquiry still raises eyebrows.

At the center of any effort to recover or reconsider Meyerbeer lies the issue of the materials and the machines he used to produce his famous “effects.” His perceived focus on matter rather than spirit provoked Wagner’s highly quotable declaration that Meyerbeer offered “effects without causes”—a phrase first applied to the moment in Meyerbeer’s *Le Prophète* (1849) when, after the reformer protagonist and his allies resolve to storm the city of Münster, a fog dissolves to reveal the city in the distance. This dramatic and crowd-pleasing “effect” (in a work full of such moments) presumably lacked a “cause,” in that it did not complete either a musical or psychological development. Along similar lines, Wagner presented Meyerbeer’s music as lacking the “inwardness” of great music; the religious enlightenment eventually sought in Bayreuth in Wagner’s time was contrasted to the commercial entertainment and cheap thrills delivered by Meyerbeer’s performances in Paris. Wagner’s works were celebrated for their depth, unity, and spirit, while Meyerbeer’s were disparaged as shallow and mechanical. As Tom Kaufman has argued, the critical vocabulary that Wagner and his followers established in their attacks on Meyerbeer helped shape the standards by which the greatness of operatic works was evaluated, to the continued detriment of Meyerbeer’s reputation.²

Rather than trying to argue that Meyerbeer lives up to the criteria of Wagnerian transcendence, recent scholarship has begun to embrace Meyerbeer’s

materialism. Cormac Newark seeks to divest Meyerbeer's materiality of the Adornian specters that linger with surprising tenacity, linking his works' physical abundance to the period's museological and technological obsessions: yes, he composed materialist operas, and that's okay.³ Mary Ann Smart likewise adopts an unapologetic view of the mundane in Meyerbeer, using it as an entry point into the exploration of his "visual materialism."⁴ This rigorous attention to Meyerbeer's materiality shows a fidelity to his historical reception. As we discuss below, Meyerbeer's contemporary reviewers paid close, constant attention to his effects and the means he used to produce them: new instruments, new acoustic devices, as well as dazzling feats of stagecraft, lighting, and decor, including techniques of illusion pioneered in Daguerre's Diorama and replicated by The Opéra National de Paris's set designer, Pierre Ciceri. Yet beyond showing how important the materials and machines of Meyerbeer's performances were for his contemporary reception, this essay takes a further step by historicizing the notions of "materialism" and "machine" that have been so central to the reception—whether favorable or disparaging—of Meyerbeer's work. With the help of one of his most generous and imaginative critics, Honoré de Balzac, we will suggest that Meyerbeer attempts, like many of his contemporaries, to overcome the simplistic dualism that opposes spirit and matter. Rather than representing machines as the embodiment of a lifeless and soulless materialism, in early Parisian opera, and in Meyerbeer's in particular, the technical "supports" of the opera were endowed with a certain charisma. With the proper arrangement of all of the opera's elements, machines could be vessels of the transcendent and divine.

The impact of Meyerbeer's techniques was frequently described in the language of wonder: "It is to the paintbrush of Ciceri that the art of perspective, effects of lighting, [and] mechanical painting owe their marvels," wrote one reviewer.⁵ Marvelous machines have been central to opera since the form's inception. As Bonnie Gordon argues, "the late sixteenth and early seventeenth century saw the emergence of a wide array of things fashioned to distort nature and to alter the human experience of the sensory world."⁶ In Monteverdi's *L'Orfeo* and many other early modern operas, a wide repertoire of stage devices and spectacular machines was deployed to produce magical sounds and visions. According to historians of science Lorraine Daston and Katherine Park, in the early modern period nature and art were inexorably entwined: just as nature might produce wondrous objects suggesting the work of a skilled and often playful craftsman, human artists strove to produce works replicating or even improving upon nature's works. Within this framework, the "machines" of baroque opera posed no threat to either the creative spontaneity of the composer or the natural grace and beauty of the performance. Instead, the careful mastery of mechanical detail stood as the acknowledged precondition for aesthetic effect. Machines were agents of enchantment.⁷

Yet even if the pageants of Meyerbeer shared techniques and spectacular intentions with those of Monteverdi two centuries earlier, and even if both made prominent use of heavy machinery to produce ethereal effects, it would be historically naïve to say that the two composers were doing the same thing—or, more specifically, that their “opera machines” were the same. Among the innumerable differences between these cultural moments, three were decisive and concerned the meaning of the machine by the 1830s: the rise and spread of mechanical philosophy, the romantic critique of mechanism, and the spread of industrial machinery.

This essay concentrates on *Robert le Diable* (1831), Meyerbeer’s first grand opera, and the discussion of it found in Balzac’s beautifully complicated short story “Gambara” (1837).⁸ Scholars usually present Balzac as an innovator in the domain of realist fiction, yet his work abounds in visionary and speculative themes. Tales such as “Gambara,” “The Unknown Masterpiece,” and *Lost Illusions* also reveal a fascination with the relationship between specific artistic techniques—or technologies—and their “spiritual” effects. Balzac’s megalomaniacal attention to the entire chain of artistic production, distribution, and reception, and to the role played by technology as a mediation between spirit and matter, made him a particularly insightful commentator on Meyerbeer’s machines. Just as *Lost Illusions* depicts literature as a coordinated system incorporating paper, press, ink, composition, genre conventions, advertising, critics, booksellers, and readers and writers, so does “Gambara” show the Parisian opera as an assemblage of diverse human and non-human actors—what Balzac’s contemporaries the Saint-Simonians, founders of a religion of technology, might have called an “organized machine.”⁹

As a production, *Robert le Diable* demonstrated the technical and aesthetic capacities of Parisian grand opera in ways with which its successors, including Wagner, were forced to reckon; Meyerbeer mastered the entire ensemble of techniques and effects that made up the “opera machine.” Our analysis seeks both to continue on the path laid out by Newark and Smart and to complicate it: rather than celebrate Meyerbeer’s abandonment of the supersensory realm, we explore the metaphysical complexities that underwrote his marvelous technologies and their critical reception. To do so we must tease out the conflicted relationships between ideas and sense, organisms and machines, and spirit and matter presented by the philosophers, critics, composers, and novelists of Meyerbeer’s day—many of whom took Parisian opera as the focus of their reflections. From this perspective, Meyerbeer’s *Robert le Diable* can be recognized as centrally concerned with technology and its alternately diabolical and divine potentials. One critic, for example, upon hearing the pipe organ in the opera’s final act—the first such use of an instrument previously associated with the Mass—described the effect as “a sublime invasion in the domain of the opera”; in his words we might hear either

the intrusion of a hostile and alien force or an epiphanic descent of grace.¹⁰ Tracing the “effects” of this opera, the range of means it used to produce them, and its reception sheds light on the romantic era’s obsession with the relationship between machines and spirit. We see that the opera’s enthusiastic immediate reception, as well as the eventual decline of its creator’s reputation, were bound up with the fantastic ambiguities surrounding the machine.

“THIS IMPOSSIBLE MUSIC”

Balzac’s “Gambara” appeared in 1837 in the *Revue et Gazette musicale de Paris*. It begins with a young Italian exile, Andrea, who stalks a beautiful woman he sees in the street, encouraged by her flustered but seemingly pure glances; she leads him to a squalid restaurant where she dines with her impoverished husband, the instrument maker, philosopher of music, and composer Gambara. Though the others present at the restaurant—its owner and chef, an unctuous Neapolitan who makes inedible culinary experiments; a composer of dances; and a near-deaf conductor—all think Gambara is mad, Andrea takes him seriously enough to debate his theories and listen to his music, hoping to win the heart of Marianna, the self-sacrificing wife, by showing understanding toward and respect for her husband. The story is set in the year of *Robert*’s debut. After hearing Gambara describe and perform *Mohammed*, the opera he has been working on for years—once disastrously, once sublimely—Andrea takes him to hear *Robert*; afterward, Gambara delivers an inspired analysis of the work.

Musicologists, including Katherine Ellis, have inscribed Balzac’s discussion about *Robert* in “Gambara” within the nineteenth-century debate over the Italian versus German influences in music: the sensuous delights of Rossini against the serious and more intellectual pleasures offered by Beethoven. The points and counterpoints of the dialogue, and Gambara’s fluid positioning, make Balzac’s view on the debate—as well as his evaluation of Meyerbeer—difficult to pin down. “Gambara” was commissioned by the editor Maurice Schlesinger as part of his prolonged effort to promote German musical culture through his journal and to plug *Robert* and other works of Meyerbeer, whose publication rights he held. Ellis suggests that Balzac may have been responding to pressure from Schlesinger to produce the story by offering only backhanded praise of *Robert*, the editor’s prized property.¹¹

Beyond the German versus Italian divide, however, Balzac’s story plays out other tensions. It begins on the last day of 1830, the year of the revolution that installed the July Monarchy of Louis-Philippe, whose dominant ideology was soon revealed to be that of a *juste milieu* between liberalism and aristocracy—despite growing unrest from imperiled workers. Andrea’s inconsistencies as a Milanese count in exile for supporting the liberal uprising against Austria make

him right at home in the “bourgeois monarchy.”¹² Further, during his pursuit of Marianna, he undergoes a fierce internal struggle: it is her blushing avoidance of his advances that most appeals to him, yet in analyzing his thoughts—a practice encouraged by the physiological and spiritualist psychologies of the time—he realizes that “if his fantasy had stripped this woman of her livery of wretchedness, she would have been spoiled for him, for he wanted her, he desired her, he loved her with her muddy stockings, her down-at-the-heel shoes, her battered straw bonnet!” He wonders with alarm, “Am I enslaved by vice?” Two principles vie within him: ideal, virtuous love and a lust perversely inflamed by squalor.¹³

This uneasy balance between high and low, between ideal beauty and its earthly clothing, is brought to bear on music at the humble dinner at the restaurant where Andrea finally meets Marianna and her allegedly insane husband. Another of the guests, the writer of dance music, replies in answer to a question about his forthcoming work: “a musician always finds it embarrassing to reply when his answer requires the cooperation of a hundred skilled performers. Mozart, Haydn, and Beethoven are nothing at all without an orchestra.”¹⁴ Another guest, the nearly deaf conductor, retorts, “Music exists independently of its execution”; he says of Beethoven that a musician need only open the score of the C-minor symphony to be “transported into the world of fantasy” where nature is “illuminated by dazzling sheaves of fire, darkened by clouds of melancholy, animated by divine paeans.”¹⁵ Count Andrea joins the conversation, taking Beethoven’s side; he derides Rossini and his followers, exalting Beethoven’s quasi-military genius as revealed in musical ideas where “effects are distributed, so to speak, in advance,” like regiments that successively enact a general plan.¹⁶

Gambara enters as the voice of moderation. He speaks, not madly as the chef and guests have insinuated, but reasonably and profoundly; Andrea, sitting between him and the absurdly grimacing chef, “felt tossed between the sublime and the ridiculous.” Gambara seconds Andrea’s praise of Beethoven yet rebukes him for dismissing the Italians: his own reflections and experiments on “the laws of musical construction in its double form, both material and spiritual” have shown him that music must be addressed as both idea and sense.¹⁷ After dinner, once the other guests have left, the seating changes: Andrea sits between Gambara and his enticing wife, “precisely the situation this madman had declared to be so desirable . . . on his left, sensuality, on his right, idealism.”¹⁸ Delighted to have a sympathetic listener, Gambara expounds the science behind his theory of music.

We learn Gambara was trained in the craft of his father, a Cremona instrument maker, and went on to work as a singer, performer, and stage hand both above and below the boards: “I studied music in all its aspects, questioning each instrument and the human voice.”¹⁹ In his musical research Gambara has investigated the physical properties of instruments—continuing a long tradition of

scientific experiments on musical materials beginning with della Porta and Galileo and reaching up to contemporaries such as Ernst Chladni and Félix Savart.²⁰ “Composers are working on substances of which they are ignorant. Why do instruments made of wood and metal, the bassoon and the horn, for example, resemble each other so little while employing the same substance, that is: the constituent gases of the atmosphere?”²¹ He shows Andrea his experimental apparatus, including a “series of little drums covered with grains of sand or rice, by which he made his observations as to the different natures of the sounds produced by his instruments.” These experiments resemble those of Chladni, who used his skill as a violinist to study the geometrical patterns that could be produced by bowing upon a square or circle of metal covered in sand.²²

Like Chladni, Gambarà perceives an underlying unity among apparently diverse natural phenomena, a unity that includes human consciousness: “Sound is light in another form: both proceed by vibrations which man transforms into thought within his nerve centers.” Music and painting “release” properties of the “mother-substance” that unites sound, light, and thought. In the language of contemporary physicists, Gambarà describes this underlying substance as an ether.²³

[What] heights could we not attain if we were to find the physical laws by virtue of which—consider this!—we collect in greater or lesser quantities, according to proportions still to be established, a certain ethereal substance, diffused within the air, which affords us music as well as light, the phenomena of vegetation as well as those of zoology.²⁴

These are the same reflections that guide Balzac’s *Comédie humaine*, according to his introductory “Avant-propos,” where he speaks of the likelihood that one day even *thought* will be included “among the fluids which reveal themselves only by their effects [light, heat, electricity, and magnetism] and whose substance [still] escapes our senses even as they are magnified by so many mechanical means.”²⁵ At the root of these fluids was a single underlying, vibratory, and generative principle, neither matter nor spirit—the quarry of the obsessive scientist, Balthazar Claës, in Balzac’s chemical novel published three years earlier, *La Recherche de l’Absolu* (*Search for the Absolute*).²⁶ Claës’s research on electricity and the decomposition of substances (including tears) aims at discovering “the Absolute,” what he calls “the First Cause, the key to all the phenomena of nature . . . the last word of creation.”²⁷ Likewise, Gambarà’s research aims at direct contact with the metaphysical source of music: “Hitherto man has merely noted effects rather than causes! If he were to penetrate the causes, music would become the greatest of all the arts!”²⁸ As with Balzac’s other philosophical pioneers, Gambarà maintains this ultimate cause—reached through both thought and physical investigation—would unite the various domains of the material world with the forces of life, and he aims to compose works and design instruments that draw nearer to

this Absolute. Resonating with the ideas of Schelling, whose philosophy had recently been presented to Parisians by the eclectic philosopher Victor Cousin, the elusive “Absolute”—which could only be grasped by a new science, a *Naturphilosophie*—was the generative ground of both matter and thought.²⁹

The debate over Italian versus German music, and Gambarà’s centrist position—that one must strive to balance sensuality and idealism—is thus only one aspect of a more fundamental question: is music essentially transcendental, formal, and ideal, or is it immanent, material, and concrete? Gambarà’s philosophically and scientifically informed response is that music is a doubled entity, simultaneously material and spiritual, arising from a source preceding any such dualism and, in its highest forms, destined to return to that unity. The composer must be as concerned with instruments and experiments involving the materiality of sound as with the laws of form and harmony—the transports of musical idealism depend on the mastery of matter. In this way Balzac makes Gambarà the spokesman (although, significantly, an unreliable, allegedly insane spokesman) for an idea that recurs throughout the *Comédie humaine*: matter and spirit are inseparably entwined, and the philosopher, scientist, artist, or author aims to realize spirit through exacting control of material techniques.³⁰

Andrea finds Gambarà’s arguments intriguing; he also sees saving Gambarà from his poverty and possible madness as the surest way to Marianna’s heart. He inspects the philosopher’s instruments and listens, on two separate occasions, to *Mohammed*, the masterpiece Gambarà has toiled over for years. In distinct ways, the two performances of *Mohammed* confirm his “physio-spiritualist” views of music. The first performance takes place in the couple’s impoverished rooms, before an audience of Marianna, Andrea, and the chef. It is terrible.

It is difficult to express this bizarre performance for new words would be required in order to give a sense of this impossible music. . . . The harrowing discords emerging from his fingers had evidently echoed in his ears as celestial harmonies. Indeed, the inspired gaze of his blue eyes open on another world, the rosy glow suffusing his cheeks, and especially the heavenly serenity which ecstasy cast on his proud and noble features would have convinced a deaf man he was in the presence of an improvisation by some great artist. An illusion all the more natural in that the execution of this meaningless music required marvelous skill in order to master fingering Gambarà must have labored over for many years.³¹

Revealing a gap between Gambarà’s high musical ideas and their physical realization, the performance is a mere “jumble of discordant sounds flung out at random” in which there is “no hint of a musical or poetic idea in the deafening cacophony.”

Yet the second performance, the following night, is utterly different. This time, “the purest and sweetest music arose from Gambarà’s fingers, like a cloud

of incense above an altar.”³² By the end of the performance, the listeners move from surprise and admiration to a state of “complete ecstasy during which they forgot both the place and the man.”³³ They are dumbfounded not only by the beauty of the music but by the gap between the two performances. What has changed between the two nights? The score and the performer are the same. But a series of elements usually considered “external” to the music has been transformed. We are in a new room: Andrea has moved the couple into a new, well-appointed, and elegant apartment. Further, the composer’s state of mind has been altered: Andrea has ordered fine cakes and wines, which Gambara consumes to the point of an elevating intoxication—that state of stimulation in which “the soul cavorts in the world of spirits.”³⁴ In addition, the composition of the audience has changed. When Gambara murmurs about the chef, “If this poor fool remains, it will be impossible to perform,” Andrea sends him away.

But the greatest alteration in the performance is the instrument that Gambara plays. This is the *panharmonicon*, the fruit of his research and labors: “an instrument about the size of a grand piano, but with a second keyboard above the first. This strange mechanism was also furnished with stops for several kinds of wind instruments and the sharp angles of several metal tubes.”³⁵ The *panharmonicon* produces the sounds of both winds and strings; there is even a heavenly, artificially produced choir, making it a “hundred-voiced instrument in which a stranger might have supposed a choir of invisible maidens was concealed.”³⁶ This seemingly fantastical instrument resembles actual machines that were created and displayed during the late eighteenth and nineteenth centuries. In the 1790s, Abbé Georg Joseph Vogler designed, built, and toured with a complex “orchestration,” a nine-hundred-pipe chamber organ that utilized swells and free reeds, and was capable of a wide range of expressive nuance. The first decade of the nineteenth century saw the invention of two massive, fully automatic “orchestra machines” that imitated the timbres of the orchestra. The first was built by Joseph Gurk in 1810, who gave his instrument the name “panharmonicon,” supposedly at the suggestion of Haydn. Two years later, Johann Nepomuk Mälzel—who is associated with a proliferation of inventions for mechanizing music and thought via the metronome and a chess-playing automaton—also created a “panharmonicon.”³⁷ These creations reflected changes to the orchestra during the late eighteenth and early nineteenth centuries. With its final consolidation and the birth of modern orchestration, the orchestra had become a complex but standardized assemblage that invited mechanical replication. As a whole, it had metamorphosed into an “organized machine.” Gambara’s contraption goes even further than this. It also includes voices, reproducing the entire sonic spectrum of the opera. If Gurk and Mälzel made orchestra machines, Gambara’s *panharmonicon* is an *opera machine*.

In its presence, the gathered company at last experiences Gambara's celestial music; at last they are lifted into the realm of spirit and thought. Yet as Balzac points out, the actual "machine" that permits this transport actually includes elements extending beyond the new instrument invented by Gambara. By detailing the changes in the room, the audience, and the state of the composer's brain, he suggests an expanded conception of the elements that go into the production of the opera's effects and affects: the entire concrete assemblage of score-instrument-performer-alcohol-hall-audience is needed to bring about the transubstantiation of mere sounds into the grandeur and beauty of "ideal" music. The carefully controlled conditions of Gambara's fictional performance reflect a new conception of the opera—that is, French grand opera—as a gigantic, unified machine.³⁸ This is the machinic assemblage of which Meyerbeer was the first true maestro.

TRANSCENDENT AND DEMONIC MATERIALS

So to return to Meyerbeer. What were Meyerbeer's effects, and how were they received? The plot of *Robert le Diable* follows a ruthless and time-constrained struggle by the devil for the protagonist's soul. The opera opens in Palermo, where Robert, the duke of Normandy, with his friend and fellow knight Bertram, hopes to win the hand of the Princess Isabelle. Bertram, unbeknownst to Robert, is actually the devil, as well as Robert's father. Bertram's demonic machinations cause Robert first to lose his entire fortune gambling and then to miss the tournament that is held for the hand of Isabelle. Having lost everything, Robert follows Bertram's next piece of devilish advice: spurred on by undead dancing nuns, he plucks a magic branch from the tomb of Saint Rosalie, a talisman that gives him the power to become invisible and induce sleep, which he intends to use to abduct Isabelle. Yet while Bertram leads Robert into increasingly sacrilegious acts, others struggle for his redemption: Isabelle's love compels Robert to break the magic branch, while Alice, his half sister, prevents Robert from signing a binding contract with Bertram. Bertram runs out of time and is swallowed into the bowels of the earth, and Robert is triumphantly led to the Palermo cathedral for his wedding to Isabelle (fig. 1).

The demonic and angelic forces at work in the plot are made palpable through Meyerbeer's material manipulations. Through orchestration, Meyerbeer reveals characters' true natures. Bertram, for example, is closely associated with ominous trombones, while Alice is allied with the clarity of horns. When Bertram cavorts with demons in the third act, the demons sing offstage, using speaking trumpets as eerie *porte-voix*, where they are accompanied by a noisy ensemble of cymbals, triangle, tam-tam, flute, trumpets, horns, and trombones. In the ballet of the dead nuns, whom Bertram brings to life in order to seduce



Figure 1 This image of the principal performers in *Robert le Diable* (from left to right: Nicolas-Prospér Levasseur, Adolphe Nourrit, and Cornélie Falcon) shows Robert pulled down toward darkness and matter by the bass-baritone Bertrand and upward toward light and spirit by the soprano Alice, poles reinforced by the opposition of sword and cross. (Artist unknown; Opera Garnier, Paris. Reproduction: Erich Lessing/ Art Resource, NY.)

Robert, they awaken to the sounds of otherworldly bassoons (a timbre that Berlioz describes in his orchestration treatise as a “pale, cold, cadaverous sound”).³⁹

Importantly, Meyerbeer depicts evil by amassing the instruments whose overuse and abuse earlier in the century had earned them associations with profane vulgarity. Starting in the late eighteenth century, critics such as E. T. A. Hoffmann and Christian Friedrich Michaelis complained bitterly about composers’ overuse of wind—especially brass—and percussion instruments. One anonymous author, for example, wrote that “there can only be a few cases in which the whole richness of wind instruments can be well employed, since their differing impressions cancel each other out, and must in the end cause nothing but a bare harmonious ringing.”⁴⁰ Hoffmann, in 1821, cynically commented, “From the heart to the heart, we say, and yet we cannot say which has the greater effect, an entire thunderstorm of kettledrums, bass drums, cymbals, trombones, trumpets, horns, etc. or the sunbeam of a single note from the oboe or some other instrument of refinement.”⁴¹ Such orchestration, critics argued, was dubious, written to

please the masses. It turned musical sound into noise and abused the characters of individual instruments. The effectiveness of Meyerbeer's demonic orchestration directly reflects, indeed exploits the negative associations such instrumentation began to accrue in the early part of the century.

It might be tempting to argue that the demonic nature of the music lies in the very fact that it is richly orchestrated. Meyerbeer's materials, by virtue of being so abundant, could be read as inherently dubious. Yet Meyerbeer subverts, or at least complicates, that reading within the opera, for Robert's salvation is likewise richly scored, using an unprecedented effect to conjure forth heavenly realms: to the orchestra he added a pipe organ, which Louis-Désiré Véron had specially built for *Robert* at great expense. It is heard throughout act 5, which is set at the entrance to the Palermo cathedral. It is unaccompanied at first, providing the processional music into the cathedral. As Larry Taylor has noted, Meyerbeer gives highly specific instructions for the organ's registration. During the processional, for example, the registration changes from strong ("Jeux d'anches sur le petit Claviers"), to *fortissimo* ("Tous les Registres"), to *pianissimo* ("Jeux de Flûtes"), "to give the impression that the doors of the cathedral have been closed."⁴² The timbre of the organ therefore conjures the sacred space of the cathedral, while its changing registration also helps give depth to the staging. After Bertram is vanquished, Robert is led into the cathedral to the sound of the organ joined with offstage harps and choir, the angelic counterpart to the demonic chorus that had clamored offstage in act 3.

Meyerbeer's orchestral and vocal effects were joined and enhanced by dance, the stage design, costumes, and lighting.⁴³ The many hundreds of costumes—tunics, capes, sword belts, and their elaborate embroidery and gold filigree—by François-Gabriel Lépaulle were created with an eye to historical accuracy. Ciceri designed the scenery, creating seven tableaux (one each for acts 1, 2, and 4, and two for acts 3 and 5). Here, as mentioned earlier, he was deeply influenced by Daguerre's Dioramas—scenes that used carefully painted linens and lighting effects to create magically changing tableaux—and used a combination of lighting effects, drops, and chiaroscuro painting that had an unprecedented effect on the audience.⁴⁴ In act 3, for the end of the scene in a grotto where Bertram convinces Robert to obtain the magic branch, Ciceri created a drop painted with clouds that descended behind the scene to create the illusion of deep fog, and to allow the set to be changed behind it; when it lifted, it revealed the cloisters of a ruined abbey, bathed in moonlight. The moonlight itself was another effect, ingeniously created by using gas lamps fitted with reflectors and wrapped in silk. Other effects were used to cast and dim the lights in order to suggest, in Wilberg's words, "the enchantment of Bertram's presence."⁴⁵ After Bertram's evocation, the nuns appeared from all corners of the stage, through trap doors and through curtains, some gliding on moving walkways. The scene ended with a frenzied dance

of specters who created fireballs by blowing resin or moss spores (*lycopodium*) over the flames of lamps. This same effect was used again in the final act, when Bertram disappeared into hellish flames through an English trap. After Bertram's vanquishing, two more backdrops were used: one representing a demon clambering out of a hellish chasm, the other a victorious angel announcing peace. At the moment of Robert's triumph, each was lifted, one after the other, to reveal the final tableaux, the interior of the Palermo cathedral, which was studded with lanterns and painted to enhance the play of light.

Meyerbeer invested painstaking care, time, and thought in his operatic materials: both the sounds and the sights of his performance were intrinsic to the work. These were "total-artworks," well before Wagner invoked the term in his 1849 essays "Das Kunstwerk der Zukunft" and "Die Kunst und die Revolution." This attention to both the visual and the musical details was, as we observed above, readily apparent in the score, but his diaries shed light on his personal investment in these matters. As it happens, starting in January 1831, eleven months before the premiere of *Robert*, Meyerbeer vowed to write more regularly in his diary. When his resolution was still fresh, his entries were quite detailed: he discussed at great length, for example, his anxieties over meeting with Alexander von Humboldt, whom he hoped could make apologies to the king in Berlin about the lateness of his opera (eventually they did meet, and Humboldt agreed to help "with all his usual kindness and friendliness").⁴⁶ Many of his entries, however, show Meyerbeer's obsessive attention to the details of instrumentation and effects. In late January, for example, he became distressed when he learned that the composer Ferdinand Hérold—who was the chorus master at the Opéra—would premiere his opera *Zampa* before *Robert*. Because the opera was similar to *Robert*, Meyerbeer fretted that he would be "preempted in various musical effects that, in this genre, have not yet been heard on the French lyric stage."⁴⁷ He was so worried that he seized the opportunity to take home the score when he had to rework the part of Bertram for the bass Nicholas Levasseur:

Hérold . . . can go into the copyist's room whenever he wishes and read my score, and should he want to, study my new instrumental effects like the four drums, the organ, the mixtures of woodwind colors, the harmonic combinations, etc. and since it seems that he will produce his work before mine, I would then appear to be the imitator even though I am the one who has been plagiarized.⁴⁸

Later in the year, presumably as preparation for *Robert* became more frenzied, Meyerbeer's entries become significantly shorter, often turning into brief notes about the orchestra and staging. In September, he pondered the availability of alternate clarinets; in October, he made notes about the speaking trumpets, the organ doors, and the timpani; and in November, a couple of weeks before the first performance, he made various notes about the lighting and how the

percussion should be used.⁴⁹ For Meyerbeer, instruments and orchestration were material, but far from mundane. A striking testament to this lies in an entry from April, in which Meyerbeer jotted down an idea for a new work that would have been a celebration of instruments themselves:

I have an idea for a cantata, *Die Erfindung der Instrumente* for the Société des Concerts at the Conservatoire that could provide opportunities for all their great virtuosi to shine. The difficulty would be how the voice would be accompanied before and until the invention of instruments. Perhaps the gods could be brought in as teachers, or perhaps it could partially be conceived as melodrama in the manner of *Der Eisenhammer*?⁵⁰

Instruments and machines could be many things for Meyerbeer. They could be both enchanted, divine technologies and demonic devices. Their variable identities reflected the multifarious ways of viewing machines during the period.

The critical response to *Robert le Diable* likewise reproduced the wide range of attitudes toward machines and technology at the time. Inventorying the new instruments—*porte-voix* or megaphones, keyed trumpets, the organ—and their new effects, François-Joseph Fétis wrote, “The acoustic effects that they produce make it possible to augment the illusion; all the more so as they have not been used before.”⁵¹ Many critics had simultaneously technical and intensely aesthetic responses: “The ruins of the third act,” a critic wrote in *Le Figaro* shortly after the premiere, “are as perfect in effect and scheme as one of the ingenious Dioramas of M. Daguerre, as the Panorama of M. Langlois; they are of a delicious color; the impression that they produce is completely poetic.”⁵² Others, equally enthralled, enumerated specific orchestral techniques and their effects, from the funereal sounds of the trombone and ophicleide during Bertram’s arrival, to the impact of the “Christian orchestra,” the organ, in the final scene.⁵³ For these critics, technology and machines were not opposed to spirit, but were means by which the audience could perceive poetic realms. In the words of one critic, “all the noises of nature, the voices, spirits and genies are expressed by this fantastic orchestra.”⁵⁴

Castil-Blaze heard military overtones in Meyerbeer’s orchestra: “It was necessary to strike a great blow, and Meyerbeer armed himself with the entire artillery of the orchestra.”⁵⁵ The organ was, as discussed above, an “invasion.” As such, this vast, potentially invasive ensemble of technical innovations was also received by some with trepidation. Some saw these new means as “foreign to art” and “disturbing in their consequences.”⁵⁶ The same critiques had been directed at the Diorama, whose effects were mimicked in Ciceri’s designs—the journal *L’Artiste* inquired, for instance, in response to the Mont Blanc diorama, “Should one blame or should one praise M. Daguerre for . . . adding to the means which painting gave him, artificial and mechanical means, strangers to art, properly

speaking?”⁵⁷ J. Janin addressed the question raised by those of Meyerbeer’s critics who reproached him “for having gone to look for effects in all the mechanical means which are entirely outside of art”:⁵⁸ “When a man of genius makes use of any known means, he uses a right that he shares with all the men of genius who made use of it before him. . . . We cannot reproach him for either exaggeration, or charlatanism, he remains within the limits of art.” Nevertheless, Janin also makes a point of chiding these critics for situating their analysis at the level of “matter”: “To pretend to take the *matter* of a work for the very essence of the work is to make a proof of ignorance or bad faith.”⁵⁹ Although defending Meyerbeer from the charge that his technical means exceed the limits of “art,” he seeks to move the discussion away from the work’s merely “material” aspects.

A wide range of responses greeted *Robert* and its new techniques. Critics recognized the difficulty of putting into words and forming a judgment about the novelties Meyerbeer introduced. Many described his new techniques of instrumentation and staging using allusions to magic and mechanical marvels; others worried that such means were essentially external to the arts. The range of responses was inevitably shaped by the volatile attitudes toward machines—metaphysical, moral, aesthetic, and political—in the years around the Revolution of 1830.

CHARISMATIC TECHNOLOGIES

At the time of the debut of *Robert*, machines were a constant point of reflection. They were extolled as vehicles of material progress and excoriated as instruments of exploitation. At the same time, they were often ascribed mythical, religious, and supernatural powers that might either elevate or enslave. In the background of the critical reception of *Robert* were two cultural developments often seen as diametrically opposed: romanticism was in full swing, and the nation was preparing to enter an industrial revolution. Rocked by the defeat of Napoleon, thanks in large part to England’s superior production capacities, there was a widespread call to develop France’s economy by investing in steam engines and railroads. A focal point for both romantics and industrial propagandists, therefore, was the machine. The machine embodied material progress through reason; at the same time, it could be seen as the cause of poverty and destruction. Over and above readings of their material harms and benefits, machines were also frequently described in terms that suggested powers that surpassed the merely material.

Just as French poets of the Restoration and the July Monarchy enthusiastically imbibed the examples of Goethe and Hoffmann, French critics and philosophers of the romantic era drew upon German aesthetics deriving from Kant, whose conceptions of organisms and mechanism helped shape French romanticism through interpreters such as Madame de Staël, Victor Cousin, Théodore Jouffroy,

and Pierre Leroux. Kant's philosophy was a landmark for early nineteenth-century shifts in the image of the machine. In seeking transcendental grounds for knowledge, *Critique of Pure Reason* (1781) took for granted that a true science would be expressed in the terms of Newtonian mechanism: uniform space and time, and deterministic, law-bound causality. Yet Kant also cleared the way for romantic attacks against mechanism by raising apparent exceptions to the universal and objective judgments of the understanding. *Critique of Practical Reason* (1788) elaborated the form taken by acts of moral freedom, while *Critique of Judgment* (1790) analyzed the possibility of attaining knowledge of organisms and aesthetics. Unlike inert, inorganic nature, and unlike machines, living things grow, repair themselves, and reproduce; every part is both a means and an end.⁶⁰ In dealing with the living we are guided by the regulative idea of a purpose for each of its parts, "as if" they were designed by a creative intelligence.

The regulative idea of an "archetypal" intelligence lying behind natural objects was echoed in Kant's view of aesthetic judgments. The beauty of the fine arts is analogous to that of natural beauty: both lie in the beholder's apprehension of the object as the work of a free creator. In the arts, *freedom* is the key word. The pleasure that we derive from the beautiful comes from the free play of the faculties, the interaction of the understanding and the imagination without resolution into a universal or fixed concept. Further, an artwork's defining qualities are formal, as opposed to the material charm or sensuous pleasure produced by musical sound or colors—judgments of beauty are free from any material pleasure or agreeableness. They are also free from considerations of the profit or uses that might be derived from a work. The artwork displays a *purposeless purposiveness*. The artwork's freedom—from motives, materiality, from purpose—makes it a symbol of moral freedom.

Romanticism combined these notions into a view of art as simultaneously organic, ideal, and antimechanical. Art—and music in particular—was given a high philosophical calling: Mark Evan Bonds has traced the Kantian origins of the view of music as "the most ideal" of the arts, while Gary Tomlinson has explored the romantic quest to realize "the supersensory realm" in material form.⁶¹ Reciprocally, true philosophers and scientists were considered artists, as they followed the acts of the original creative force. *Naturphilosophie's* search for the underlying connections of the natural world as the products of an "Absolute Ego"—Friedrich Schelling's pantheistic variant on Kant's archetypal intelligence—guided research into organisms as well as into light, chemical interactions, electricity, and magnetism.⁶²

In France, romanticism received a push from Madame de Staël's *De l'Allemagne*, which elevated spirit, imagination, and organisms over matter, reason, and machines: "When man is devoured, or rather reduced to dust by incredulity, [the] spirit of marvels is the only one to return to the soul a power of

admiration without which one cannot understand nature. . . . The universe resembles a poem more than it does a machine.”⁶³ One of the first French Kantians, Victor Cousin sought to unite all possible philosophical viewpoints in the acts of the willful subject. His manifesto of “eclecticism,” *Lectures on the True, the Beautiful and the Good*, presented “ideal beauty” as a means of leading humans up to the infinite; this “spiritualist” aesthetic was seconded by Théodore Jouffroy, who saw art as the attempt to grasp an infinite domain of ineffable forces.⁶⁴

By the time of the July Monarchy, romanticism’s idealist rejection of mechanism found reinforcement from an unlikely source: workers whose livelihoods were threatened by the introduction of “labor-saving” machinery. A typographer wrote in 1830, “Machines, more voracious than the monsters brought to earth by Hercules, are contrary to humanity, to the rights of nature and of industry and to the general interest of the members of society.”⁶⁵ Machines had long been compared with monsters—as nonhumans with uncanny, human-like capacities—but during the early days of the French industrial revolution, they were seen as a particularly horrific threat to workers’ livelihoods. The first years of the July Monarchy witnessed an epidemic of machine breaking—the destruction of machines was a refusal of a new form of tyranny, an assertion of freedom. Yet such attacks were countered by proclamations of the economic and social benefits brought by mechanization. Liberal economist Jean-Baptiste Say argued that jobs lost to mechanization would eventually be regained through the subsequent growth of markets. Say’s colleague at the Centre National des Arts et Métiers Charles Dupin statistically demonstrated the benefits of industry: he taught courses on geometry and the mechanical arts to workers and displayed the wonders of invention in a series of National Expositions, to which England responded with the much more famous Crystal Palace Exposition of 1851.⁶⁶ Rather than being the enemy of human liberty, machines and instruments that were properly administered—whose use was “organized,” to use the term popularized by the followers of Saint-Simon—might be tools of freedom.

Likewise, romantics’ responses to industrial technology were often more complicated than simple rejection of matter in favor of spirit. George Sand—who, like Victor Hugo, turned her attention to the workers’ plight in the early 1830s—presented opposing views in *The Seven Strings of the Lyre* (1839). At a scene near a workshop, one character expresses admiration for the “sublime harmonies” created by the “voice of industry, the noise of machines, the whistling of steam, the shock of hammers,” while another sees “only the unfortunates shattered beneath heavy burdens or bent over a thankless task.”⁶⁷ Even Thomas Carlyle—the British ambassador of German romanticism whose “Signs of the Times” of 1829 defended spirit, life, poetry, and religion against the encroachments of “The Mechanical Age”—presented mechanization as a transformative metaphysical

force. Endowed with the ability to destroy spirit, reduce life to its component parts, or turn humans into automata, machines were, paradoxically, granted a power that was more than material. A range of discourses (some ironic, some earnest), from political economy to *feuilleton* novels, featured images of transformative, spiritually charged machines—charismatic technologies. And just like their material impacts, machines’ spiritual effects could be painted as either beneficial or harmful.⁶⁸

Early socialist writings frequently adopted such rhetoric. “[T]he railroad will become a symbol of the spiritual union of Europe,” wrote Michel Chevalier, whose promotion of steam technology was woven into the pantheistic Saint-Simonian religion.⁶⁹ Charles Fourier drew upon Mesmer’s theories in his predictions of the cosmological transformations brought about by “industrial attraction”; his follower, Constantin Pecquer, spoke of the “magic of spontaneous creation” unleashed by steam.⁷⁰ Just as easily, however, new technologies could be presented as supernaturally destructive—not least by Karl Marx, whose “romantic” 1844 manuscripts were composed in Paris. He later warned of workers turned into automata, and likened the productive powers of industrial machinery to a sorcerer’s spell gone awry.⁷¹

Like Marx’s “specter haunting Europe,” such imagery drew upon the contemporary genre of the fantastic.⁷² E. T. A. Hoffmann’s stories and musical criticism were translated into French in 1824 to great acclaim. His tales of automata, spell-bound humans, and animated instruments—the microscopes of “Master Flea” as much as the storm harps and orchestral machines of “Automata”—found eager imitators in Paris. The fantastic has been defined by metaphysical uncertainty: a seemingly inert object comes to life; an alien object is recognized as familiar; the world of predictable, commonsensical reality appears alive with supernatural forces. Beyond their psychological resonances, such uncanny scenes, which proliferated in the years around 1830, inscribed the ambiguities surrounding new, world-changing devices and their alternately divine and demonic characters.

The *Unheimlich* was right at home in opera. *Robert le Diable*’s most obvious precursor, Weber and Kind’s *Der Freischütz* (1821), can be seen as the turning point from a mimetic naturalism to a technologically rooted supernaturalism.⁷³ In its famous “Wolf’s Glen” scene, the hero, Max, meets the diabolic Zamiel to cast a set of magic bullets, summoning the aid of demons and ghosts. The supernatural and demonic in the world of *Freischütz* were conjured through the opera’s various technologies, both musical and visual. As Anthony Newcomb has written, the scene deployed visual technologies akin to those of Etienne Robertson’s phantasmagoria; further, each of the seven bullets had its own demonic noise and image.

The narrative itself depicts the ambiguous potentials of technology. The bullets promise both a magical solution and a demonic threat: they will slay

Max's rival but, in the end, will fell his beloved. Fantastic ambiguity adheres to the music as well. Weber's orchestration draws upon recognizable "mimetic" gestures to set the opera's landscape: the forest is conjured, unsurprisingly, through the sound of horns, while the sound of the lightning during the casting of the magic bullets has direct precursors in Haydn's *Seasons* and Beethoven's "Pastoral" symphonies. However, sounds which in the eighteenth century would have been heard straightforwardly as the sounds of nature here gesture toward the otherworldly. Weber's horns were no longer just horns, basic tools of the hunter, but magic horns connected to the spirit of the forest. This transformation from the natural into the supernatural happens precisely at the level of technology.⁷⁴ Given these precedents, it is unsurprising that critics focused on Meyerbeer's opera machines, and that the terms of *Robert's* reception were set by the general ambivalence surrounding machines.

AN OPERATIC CURE

Nowhere are these uncertainties more visible than in "Gambara." As noted above, the text's opposition of German idealism and Italian sensualism is deepened—and, as we will see, made unstable—by other oppositions running through the text. Central among them is whether "the matter of a work"—its sounds, instrumentation, and staging—are essential to our understanding of it, and whether these "mechanical" improvements are "outside the domain of art."

As mentioned above, Andrea decides to cure Gambara's madness as a means of winning Marianna's heart. He moves the couple into a new apartment and supplies Gambara with wine so that he will be "in a state to hear and judge" in their nightly conversations.⁷⁵ Gambara grows calmer, even showing interest in reading the newspaper at one point, although his mania at times threatens to reappear. At last the time comes for the cure's "major effort": Andrea is convinced that exposure to *Robert le Diable* is likely to "disabuse the composer of his obsessions."⁷⁶ On the night of the debut, Andrea "neglected no details," taking "infinite precautions" to supply the composer with fine Italian wines (including "Lacrima-Christi," the tears of Christ) to prepare him for Meyerbeer's opera. The work's effects are immediate: "At the first notes of the overture, Gambara's intoxication seemed to give way to that feverish excitement which sometimes set his judgment and his imagination in harmony . . . and the dominant thought of this great musical drama struck him, in its dazzling simplicity, as a lightning flash."⁷⁷ Silent and motionless long after the performance, Gambara at last answers Andrea's prodding questions with a fervent analysis of the opera's melodies, instrumentation, and themes.

Well before reaching that climactic discussion, however, the text makes clear that the count's intentions toward Gambara are anything but

straightforward. Just as Andrea has been torn between his aristocratic standing and his liberal convictions, and between virtue and vice in his desire for Marianna, his “semimedical” project is perplexed. Does he seek to cure Gambara or to curse him—to return him to sanity or to break him utterly? The first would earn him Marianna’s admiration but dash any hope of possessing her; the second would liberate her but earn her contempt. The text also vacillates about just what would make for a “cure.” Our first, physiognomical view of Gambara—his broad forehead, transparent skin, and sunken eyes—reveals a preponderance of the intellect over the emotions, unlike Marianna, whose “lovely Italian head” shows her as “one of those organisms in which every human impulse is harmoniously balanced.”⁷⁸ Andrea identifies the cause of his patient’s obsession as a lack of harmony between his judgment and his imagination. Musically, this might mean an excess of ideas and a neglect of sense. Gambara’s first, chaotic performance suggests such a reading, as his elaborate descriptions of his musical and thematic plan are utterly incommensurate with the noise he creates.⁷⁹

If there is a musical dimension to Gambara’s insanity, we could also expect Andrea’s musical views to color the cure he proposes. Yet these are also difficult to pin down. In their first conversation Andrea declares that “The Italian School has lost sight of art’s lofty mission” and offers impassioned praise for Beethoven. Yet the text tells us he could only do so once he “forgot all his sympathies,” implying that he is playing devil’s advocate to provoke a response. Nevertheless, the subtlety and conviction of Andrea’s arguments—delivered from “the loftiest regions of metaphysics with the ease of a somnambulist walking on the rooftops”⁸⁰—suggest that at least some of his musical sympathies lie north of the Rhine. Yet he seems to see Gambara’s problem as an excess of intellect that can only be cured, bizarrely, by abandoning music and becoming a poet. In Andrea’s tangled logic, it appears that exposing the composer in a state of drunken lucidity to *Robert le Diable* will push Gambara to realize that “his authentic mission in this world consisted . . . in seeking the expression of his thought in . . . poetry.”⁸¹ After the performance, Andrea goads the pensive Gambara with a list of its faults. He acknowledges the opera’s “scientific skill” yet sees it as “separated from inspiration”: the story is silly; the emphasis on the demonic is morally dubious; its weak melodies, lacking in emotional depth, are overpowered by harmony; its dissonance produces only “wearisome tensions”; musical unity or truth is abandoned for an opportunistic excess of “eccentric effects”; Meyerbeer’s best motifs are numbingly repeated; the rhythm is monotonous. Anticipating future critics, he presents the work as materially skillful but lacking in depth and “inspiration.”⁸²

Gambara responds with an impassioned defense of *Robert*. In it, he offers a musical analysis in terms that are simultaneously material and spiritual. Along a

second axis, and in apparent contradiction to the first, he also presents the work as a vindication of the *superiority* of spirit over matter. His first words combine the mechanical and supernatural: “I am still under the charm of that wonderful song from the infernal regions which megaphones, a new instrumentation, make still more terrible!” It is as if, he says, he is “under the spell of a supernatural power.”⁸³ Yet after his return home, sitting in front of Andrea’s piano (and with the help of added libations), he frames his defense of the work in *spiritual* terms: “this music was written neither for unbelievers nor for those incapable of love.”⁸⁴ His account oscillates between assertion—at the level of technique—of the inseparability of matter and spirit, and an argument—at the level of theme—of the supremacy of spirit over matter.

Against Andrea’s complaint that the work is nothing but fragments, Gambarà describes the work as “both vast and concentrated.” It opens a cosmological perspective, “a world of dreams where our senses become more powerful, where the universe reveals itself in gigantic proportions in relation to mankind.”⁸⁵ Yet he ties this vast idea, this mental shift, to the physiological response produced by Meyerbeer’s materials: “I still shudder . . . at the four measures of the kettledrums which pierced me to the core at the opening of that brief overture where the trombone solo, the flutes, the oboes, and the clarinet flood the soul with fantastic colors.”⁸⁶ Playing the main theme, Gambarà strikes the piano in “a sort of spiritual explosion in the manner of Franz Liszt,” effecting a metamorphosis of the instrument: “It was no longer a piano but a whole orchestra that was playing—the genius of music was evoked.”⁸⁷ Over several animated pages, Gambarà matches commentary with performance, tracing Robert’s struggle—“the combat of the two principles”⁸⁸—through the catalog of Meyerbeer’s harmonic and sonic effects, in which the same means are never used twice, including “the modulation of the four kettledrums (tuned to C, D, and C, G).” He lays heavy stress on the necessary connection between material effects and the guiding theme, and on the presence of “the grand conception of the ensemble in every detail.”⁸⁹ He enacts this merger of idea and musical sensation in his own recapitulation:

“You see how explicitly this is expressed,” Gambarà observed, synopsisizing the scene with an impassioned execution which thrilled Andrea. “This whole avalanche of music, from the four-four time of the kettledrums, was made for this combat of the three voices.”⁹⁰

Everything in Gambarà’s explication points toward a merging of matter and spirit—the idea that depends on and conditions the sounds, the instruments that weave enchanting spells, the nervous shudders of the listeners all represent the merger of sense and thought.

Yet at the level of the plot, Gambarà’s summary reasserts a more traditional metaphysics, one in which the soul strives against matter in “an entirely spiritual

struggle,” with salvation at stake. Bertram deceives Robert: “The magic of evil triumphs!”⁹¹ Gambara likewise sums up the scene in the graveyard—the unforgettable mixture of hallucinatory backdrops and lighting, demon chorus, writhing ballerinas, and siren-like bassoons, culminating in Robert’s possession of the magic instrument, the talismanic cypress branch—as the action of ineffable forces: “It is Hell which triumphs!”⁹² Along these lines, he describes the finale as “the triumph of the soul over matter, of good over the spirit of evil.”⁹³ Yet to describe this *spiritual* triumph, Gambara, like other critics, cannot help but single out the extraordinary material that both announces and enacts it—namely, the organ: “Religion ascends omnipotent with a voice which overwhelms the world.”⁹⁴ At this point in the opera, the organ no longer accompanies the drama as an element of local color; it becomes an active agent, an instrument of salvation. The first foreshadowing of Bertram’s defeat is the destruction of the demonic technology of the cypress branch. When Robert breaks the talisman into three pieces, each break is articulated by a *fortissimo* chord played by the entire orchestra. In the final act, just as Robert is about to sign a contract with the demon Bertram, he hears the holy sound of the organ from the cathedral, first solo and then accompanied by the orchestra (“*N’entends-tu pas ces chants?*” he asks Bertram). The sound stays his hand from signing the contract of his perdition. The organ—this unprecedented instrument whose entrance was a “sublime invasion”—becomes an actor in the drama.

Gambara’s analysis offers the fascinating paradox of “an entirely spiritual struggle” incomprehensible to materialists, yet inexpressible without a new language of harmony, effects, and instruments—megaphones, organs, Gambara’s own piano. Balzac further depicts material tools as perpetually surpassing their limits, accessing other worlds, harnessing invisible powers. Gambara summarizes *Robert* in these words: “You have seen human life in its one and only true expression: Shall I be happy or unhappy? Ask the philosophers. Shall I be damned or saved? Ask the Christians.”⁹⁵ Yet whether we ask those concerned with terrestrial finitude or those who deal in the eternal spirit, Balzac’s narration shows how these questions can only be answered at the crossroads of the two domains—in the ecstatic materialism enacted by the operatic machine. The critical sin would be to adhere to one principle while denying the reality of the other.

Andrea, who has orchestrated this climactic scene as part of his cure, draws a strange moral. Attempting to drag Gambara back to earth, he insists: “[I]f instead of seeking to express ideas, and if instead of carrying musical principles to extremes, in which you lose sight of your goal, you were simply willing to awaken certain sensations, you would be better understood.”⁹⁶ Gambara takes umbrage, and with good reason. Gambara has earlier argued against taking sides between ideas and sense, defining music by both its physical and spiritual aspects. His experiments on musical instruments and philosophy of the ether—a substance

joining mind and matter—provided both scientific and metaphysical bases for his views. To Andrea’s question after his second, gorgeous performance, “Who could inspire you with such music?” Gambarà answers, “The Spirit!”⁹⁷ Yet Balzac’s description of the setting (elsewhere he writes of interiors as “the material representation of thought”⁹⁸) shows that much more is involved: the ceremonial arrangement of room, audience, instrument, and wine are required to bring forth an otherworldly presence. Likewise, after his discussion of *Robert*, Gambarà “fell into a sort of musical ecstasy,” improvising “a divine song” that forces the count out of his materialistic illusions: “the clouds dispersed, the blue of the sky reappeared and raised the veils which hid the sanctuary, the light of heaven fell in floods”—a spiritual epiphany that is at the same time a precise transcription of the action of the stage machinery at the conclusion of *Robert*. Gambarà punctuates the silence with a single word: “*God!*”⁹⁹ The precise arrangement of charismatic technologies and their masterful use summons “The Spirit”; it opens the heavens for the audience. Balzac presents Gambarà’s impromptu performance as nothing less than a Eucharist.¹⁰⁰

SYMPATHY FOR *LE DIABLE*

We can see both Meyerbeer and Balzac’s works as staking out a new metaphysics in which materiality and machines are not in opposition to spirit and organisms, but are instead their necessary concomitants and preparations. Romantic criticism had lent a strong new voice to traditional idealist metaphysics—the Platonic and Christian denigration of matter in favor of a perfect, unchanging truth outside the world. One of the inflections it added was to recast the traditional dualism as an opposition between machines and organisms. Yet like most dualisms, this one was unstable: mechanical philosophy, with its quest for “primary qualities,” was no stranger to idealism; likewise, organisms could just as easily be placed on the side of matter as on that of thought or spirit. Further complicating the picture, under the romantic impulse for new forms and new experiences, in the 1820s and 1830s a range of artistic, philosophical, scientific, social, and artistic experiments appeared that posed a direct challenge to the dualism of matter and spirit, proposing elusive materialisms and concretizing spiritualisms focused on the contact point between idea and world—instrument, fetish, symbol, machine. In the physical and metaphysical quests of his characters, Balzac’s literary philosophy and philosophical literature both enacted and described this impulse to forge connections between matter and spirit. Meyerbeer’s operas were experiments along similar lines. Not only did they assemble unprecedented technologies of sound and vision, hallucination and transport, but as we see in the roles played by the talismanic branch and the sacred organ, these charismatic technologies were themselves characters in the

drama. We might read the character of Robert himself—half human, drawn to salvation and spirit; and half demon, the victim and agent of “mechanical” enslavement to matter—as one more charismatic technology: the iconic intersection of the period’s eclectic currents of spiritualism and physiology.

Yet the older dualism waited in the wings. As we saw at the climax of Balzac’s tale, Gambarà went against the thrust of his own musical theory by sublimating *Robert* into an “entirely spiritual” struggle between matter and soul, with the eventual triumph of spirit. The morning after the opera, both the vapors of the wine and the spell of the music are gone: a disillusioned Gambarà now describes *Robert* as “no more than mountains of notes heaped up.”¹⁰¹ He swears off liquor and resolves again to pursue his musical ambitions. “He does not want to be cured!” wails Marianna. A tragic epilogue confirms both the reassertion of dualism and the characters’ material descent. Six years later, we see Marianna returned to Paris, her beauty destroyed and her heart broken. Her presumably ideal elopement with the count was eclipsed by his ultimate embrace of sense and matter: “Married to a dancing girl!” she murmurs.¹⁰² The miserable Gambarà likewise has seen his *panharmonicon* sold and the pages of his score used to wrap “butter, fish and fruit.”¹⁰³ They are reunited in abysmal poverty, forced to sing duets from his opera—mistaken for the work of Rossini—for the *eau-de-vie* Gambarà needs to perform. “My misfortune comes,” he says, “from listening to the music of angels and from believing that human beings could understand it.” As he recalls his “old scientific labors,” he wipes away a tear and, in the story’s final line, reduces even his sorrow to its material composition: “Water is a body that has been burned.”¹⁰⁴ In a reversal of the outcome he beheld in *Robert*, matter has won the day.

Since Meyerbeer’s time, critical consensus has largely dragged his reputation down the same trajectory as Balzac’s hero: critics increasingly denounced the composer for an excess of materiality, an artless dependence on machinery, and, eventually, a lack of inwardness. In the hands of Wagner, the old duality returned stronger than ever. Though Wagner’s operatic productions called for some of the genre’s grandest pieces of musical machinery—the Bayreuth Festspielhaus—Wagnerian musical ideology has worshipped spirit and cheered its triumph over matter. *Tristan und Isolde*, for example, has been read as a “translation” of Schopenhauer’s pure will.¹⁰⁵ Wagner took calculated, concrete steps towards this end: by burying his orchestra deep in the orchestra pit in the Festspielhaus, he made his machinery invisible; his audience hears only ethereal sounds, while the source of the music is hidden. From the point of view of technology and the material basis of music, then, Wagner’s damning accusation against Meyerbeer—that he produced “effects without causes”—is more than slightly ironic. Wagner’s suppression of the orchestra is the physical corollary of a burgeoning attitude in musicology that persists even today: a blindness toward technology and the rise

of an abstract, ideal conception of music. Recent musicology has begun to rediscover music's machines. And historically, when machines have been taken seriously—and not as mere technical supports or novelties disconnected from questions of musical essence—they have tended to take on a deadly, quasi-gothic power.¹⁰⁶ As Meyerbeer and his unstable *porte-voix* Gambara demonstrate, however, entombment was only one of the perceived potentials of technology at the birth of grand opera; machines could also be agents of epiphany. The complex interactions and ambiguous relationship between matter and spirit formed the body and soul of this quintessentially modern spectacle.

NOTES

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1. Recent books include Mark Everist, *Giacomo Meyerbeer and Music Drama in Nineteenth-Century Paris* (Aldershot: Ashgate Press, 2005); Mary Ann Smart, *Mimomania: Music and Gesture in Nineteenth-Century Opera* (Berkeley: University of California Press, 2005); Robert Letellier, trans. and ed., *The Diaries of Giacomo Meyerbeer*, 4 vols. (Madison: Fairleigh Dickinson University Press, 1999–2004).

2. Tom Kaufman, "Wagner vs. Meyerbeer," *Opera Quarterly* 19, no. 4 (2003): 644–69. On Meyerbeer and effect, see also Georg Oswald Bauer, "Zur Genese des Begriffes 'Effekt,'" in "Schlagen Sie die Kraft der Reflexion nicht zu gering an!": Beiträge zu Richard Wagners Denken, *Werk und Wirken* (Munich: Schott Musikwissenschaft, 2002), 151–57; Christian Merlin, "Wagner et le spectaculaire, ou la critique de l'effet sans cause," in *Le spectaculaire dans les arts de la scène du romantisme à la Belle Époque*, ed. Isabelle Moindrot (Paris: Éditions du Centre National de la Recherche Scientifique, 2006), 78–83; and Mattias Brzoska, "'Wirkung mit Ursache': Idée esthétique et apparence du spectaculaire dans l'œuvre de Meyerbeer" also in Moindrot, *Le spectaculaire dans les arts*, 84–93; and Gabriela Cruz, "Meyerbeer's Music of the Future," *Opera Quarterly* 25, nos. 3–4 (2009): 169–202.

3. Cormac Newark, "Metaphors for

Meyerbeer," *Journal of the Royal Musical Association* 127, no. 1 (2002): 23–43.

4. Mary Ann Smart, "'Every Word Made Flesh': *Les Huguenots* and the Incarnation of the Invisible," in *Mimomania* (see note 1), 101–31.

5. Joseph d'Ortigue, "Jacomio Meyerbeer," *Revue de Paris*, December 4, 1831, quoted in Rebecca S. Wilberg, "The *mise en scène* at the Paris Opéra—Salle Le Peletier (1821–1873) and the staging of the first French grand opéra: Meyerbeer's *Robert le Diable*" (PhD diss., Brigham Young University, 1990), 290–91.

6. Bonnie Gordon, "L'Orfeo at 400: Orfeo and Machines," *Opera Quarterly* 24, nos. 3–4 (2009):

3. See also Martha Feldman, *Opera and Sovereignty: Transforming Myths in Eighteenth-Century Italy* (Chicago: University of Chicago Press, 2007).

7. Lorraine Daston and Katy Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998); on wonder as the goal of the mechanical philosophy; see also Simon Werrett, "Wonders Never Cease: Descartes's 'Météores' and the Rainbow Fountain," *The British Journal for the History of Science* 34, no. 2 (2001): 129–47.

8. Honoré de Balzac, "Gambara," trans. Richard Howard, in *The Unknown Masterpiece* (New York: New York Review Books, 2001).

9. Like an animal, a society is "a true organized machine of which all the parts contribute in different ways to the functioning of the ensemble"; its health depends on how well its organs complete the "functions which are entrusted to them." Henri de Saint-Simon, *Mémoire sur la science de l'homme* (1813), in *Œuvres de Claude-Henri de Saint-Simon* Tome V (Paris: Anthropos, 1966), 177. See Ralph Locke, *Music, Musicians, and Saint-Simonians* (Chicago: University of Chicago Press, 1986).

10. "L'Orgue qui a fait une sublime invasion dans le domaine de l'Opéra." "Opéra," *Le Figaro*, November 23, 1831.
11. Katherine Ellis, "The Uses of Fiction: contes and nouvelles in the *Revue et Gazette musicale* 1834–1844," *Revue de Musicologie* 90, no. 2 (2004): 253–81.
12. Balzac, "Gambara," 51.
13. *Ibid.*, 56. On Maine de Biran and Victor Cousin's method of psychological introspection, see Jan Goldstein, *The Post-Revolutionary Self: Politics and Psyche in France, 1750–1850* (Cambridge: Harvard University Press, 2005); on physiology and "ideology," see George Boas, *French Philosophies of the Romantic Period* (Baltimore: Johns Hopkins University Press, 1925).
14. Balzac, "Gambara," 69.
15. *Ibid.*, 70.
16. *Ibid.*, 71.
17. *Ibid.*, 75.
18. *Ibid.*, 75.
19. *Ibid.*, 77.
20. See, for example, Giambattista della Porta, *Magia Naturalis* (Naples: Cancer, 1558), translated 1658 (London: Thomas Young and Samuel Speed); Vincenzio Galilei, *Dialogo della musica antica, e della moderna* (Florence: G. Marescotti, 1581); Ernst Chladni, *Die Akustik* (Leipzig: Breitkopf & Härtel, 1802); Félix Savart, *Mémoire des instruments à cordes et à archet* (Paris: Librairie Encyclopédique de Roret, 1819).
21. Balzac, "Gambara," 78–79. See Myles Jackson, *Harmonious Triads: Physicists, Musicians, and Instrument Makers in Nineteenth-Century Germany* (Cambridge: MIT Press, 2006); and Thomas Levenson, *Measure for Measure: A Musical History of Science* (New York and London: Simon & Schuster, 1994).
22. Balzac, "Gambara," 2; on Chladni, see Jackson, *Harmonious Triads*; and Thomas Hankins and Robert Silverman, "Science since Babel: Graphs, Automatic Recording Devices, and the Universal Language of Instruments," *Instruments and the Imagination* (Princeton: Princeton University Press, 1995), 113–47.
23. See Madeleine Fargeaud, *Balzac et "La recherché de l'absolu"* (Paris: Hachette, 1968); and Geoffrey Cantor and Michael Hodge, eds., *Conceptions of the Ether, Studies in the History of Ether Theory, 1700–1900* (Cambridge: Cambridge University Press, 1981).
24. Balzac, "Gambara," 78.
25. Honoré de Balzac, "Avant-Propos," *La Comédie humaine* (Paris: Gallimard, 1976), 1: 17.
26. Honoré de Balzac, "La Recherche de l'absolu," *La Comédie humaine* (Paris: Gallimard, 1979), 10: 657–835.
27. Balzac, "Gambara," 78.
28. *Ibid.*, 79.
29. See Friedrich Wilhelm Joseph von Schelling, *Ideas for a Philosophy of Nature as Introduction to the Study of this Science*, trans. Errol E. Harris and Peter Heath (Cambridge: Cambridge University Press, 1988); a clear and helpful overview of Schelling's philosophy is found in Robert Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (Chicago: University of Chicago, 2002), 289–306.
30. On the specificity of the "Philosophical Tales," see Josué Harari, "The Pleasures of Science and the Pains of Philosophy: Balzac's *Quest for the Absolute*," in "Concepts of Closure," ed. David Hult, special issue, *Yale French Studies* 67 (1984): 135–63.
31. Balzac, "Gambara," 100.
32. *Ibid.*, 104.
33. *Ibid.*, 103.
34. *Ibid.*, 103.
35. *Ibid.*, 103.
36. *Ibid.*, 104.
37. See Emily I. Dolan, "The Origins of the Orchestra Machine," *Current Musicology* 76 (2003): 7–23.
38. Charting both the Paris opera's technical expansion as well as its new audiences and the diversification of its performances, Hervé Lacombe paraphrases Pierre Larousse: "to meet modern needs better, opera is becoming an enormous machine." Hervé Lacombe, "The 'machine' and the state," in *The Cambridge Companion to Grand Opera*, ed. David Charlton (Cambridge: Cambridge University Press, 2003), 21–42; 41.
39. Hector Berlioz, "Grand traité d'instrumentation et d'orchestration modernes," in *Berlioz's Orchestration Treatise: A Translation and Commentary*, trans. Hugh McDonald (Cambridge: Cambridge University Press, 2002), 113–14.
40. "Kritische Bemerkungen über verschiedene Theile der Tonkunst," *AmZ* 1 (1799): 193–97; 197.
41. E. T. A. Hoffmann, "Zufälligen Gedanken beim Erscheinen dieser Blätter," *Allgemeine Zeitung für Musik und Musikliteratur*, October 9 and 16, 1820, translated as "Casual Reflections on the Appearance of this Journal," in Charlton, *The Cambridge Companion to Grand Opera*, 423–31.
42. See Larry Taylor, "Holiness and Devilry: The Organ in Operas of the Nineteenth and Twentieth Centuries" (DMA diss., University of Cincinnati, 2006), 8. On Meyerbeer's use of the organ, see also Sieghart Döhring, "Musikdramaturgie und

Klanggestalt: Die Orgel in Meyerbeers *Robert le Diable*,” in *Über Musiktheater: Eine Festschrift*, ed. Stefan G. Harpner (Munich: G. Ricordi & Co., 1992).

43. On the original staging, see Wilberg, “The *mise en scène* at the Paris Opéra.”

44. On the staging at the Paris Opéra, see Karin Pendle and Stephen Wilkins, “Paradise Found: The Salle le Peletier and French Grand Opera,” in *Opera in Context: Essays on Historical Staging from the Late Renaissance to the Time of Puccini*, ed. Mark A. Radice (Portland: Amadeus Press, 1998), 171–207.

45. Wilberg, “The *mise en scène* at the Paris Opéra,” 316.

46. Letellier, *The Diaries of Giacomo Meyerbeer*, 398. On Humboldt as maestro of scientific orchestras, see John Tresch, “Even the Tools Will Be Free: Humboldt’s Romantic Technologies,” in *The Heavens on Earth: Observatories and Astronomy in Nineteenth-Century Science and Culture*, ed. David Aubin and Charlotte Bigg (Durham: Duke University Press, 2010), 254–84.

47. Letellier, *The Diaries of Giacomo Meyerbeer*, 400.

48. *Ibid.*, 402.

49. *Ibid.*, 417–18, 422, 420.

50. *Ibid.*, 413.

51. François-Joseph Fétis in *Le Temps*, November 25, 1831; see Marie-Hélène Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer* (Saarbrücken: Musik-Edition Lucie Galland, 1988), 62.

52. “Les ruines du troisième acte sont aussi parfaites d’effet et de combinaison qu’un des ingénieux Diorama de M. Daguerre, que le Panorama de M. Langlois; elles sont d’un couleur délicieuse; l’impression qu’elles produisent est toute poétique.” “Opéra, *Robert-le-Diable*.” *Le Figaro*, November 28, 1831, quoted and translated in Wilberg, “The *mise en scène* at the Paris Opéra,” 299.

53. “Les Trombones et l’ophicléide sonnent à l’unisson; une voix solennelle et funèbre annonce l’arrivée de Bertram; un concert de violoncelles et de bassons unit son harmonie triste et sévère au récitatif obligé, chanté par cet esprit de ténèbres. Cette innovation est de la plus grande beauté.” Castil-Blaze, in *Journal des débats*, December 16, 1831, in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 51; “L’orgue, cet orchestre de la musique chrétienne, un dans son ensemble comme le dogme. L’orgue, cette invention anonyme comme l’architecture gothique, de laquelle il participe en quelque sorte par ces dimensions gigantesques; l’orgue, ce pivot de la musique moderne, cet instrument aux mille voix

dont l’harmonie fière, immense mais égale, soutenue, tranquille, annonce par son caractère qu’elle est destinée à exprimer d’autres pensées terrestres, l’orgue vient mêler ses imposants accords, ses accents calmes, au luxe de l’instrumentation, aux effets d’un orchestre impétueux.” J. d’Ortigue in *La Revue de Paris*, 1831, vol. 33, in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 61.

54. “Monsieur Meyerbeer porte le génie des combinaisons au plus haut degré; aussi, non seulement les accents de toutes les passions, mais encore tous les bruits de la nature, les voix des esprits et des génies sont exprimés par cet orchestre fantastique.” Unsigned review, *Le Courrier de l’Europe*, November 23, 1831, in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 47.

55. Castil-Blaze in *Le Journal des débats*, February 16, 1831, in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 60.

56. “Foreign”: François-Joseph Fétis in *Le Temps*, November 25, 1831; “disturbing”: unsigned review in *Le Garde national*, November 24, 1831, in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 62.

57. In *L’Artiste*, quoted in Helmut and Alison Gernsheim, *L. J. M. Daguerre; The History of the Diorama and the Daguerreotype* (London: Dover, 1968), 321–45.

58. *La Quotidienne*, 1831 (signed “J.T.”), in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 52.

59. J. Janin, *Le Journal des débats*, July 22, 1832, in Coudroy, *La Critique parisienne des “grands opéras” de Meyerbeer*, 62.

60. Immanuel Kant, *Critique of Judgment*, trans. Werner Pluhar (Indianapolis: Hackett, 1987). On Kant and organicism, see Robert Richards, *The Romantic Conception of Life*.

61. See Gary Tomlinson, *Metaphysical Song* (Princeton: Princeton University Press, 1999); and Mark Evan Bonds, *Music as Thought: Listening to the Symphony in the Age of Beethoven* (Princeton: Princeton University Press, 2006).

62. See Nicholas Jardine and Andrew Cunningham, eds., *Romanticism and the Sciences* (Cambridge: Cambridge University Press, 1990); Williams, L. Pearce, “Kant, *Naturphilosophie* and Scientific Method,” in *Foundations of Scientific Method: The Nineteenth Century*, ed. Ronald N. Giere and Richard S. Westfall (Bloomington: Indiana University Press, 1973), 3–22.

63. Madame de Stael, *De l’Allemagne* (Paris: H. Nicolle, 1810, repr., Paris: Dido, 1845), 463–64.

64. Victor Cousin, *Du vrai, du beau, et du bien*, 2nd ed. (Paris: Didier, 1854); Theodore Jouffroy,

Cours d'esthétique, 2nd ed. (Paris: Hachette, 1863), appearing in Jouffroy, *Mélanges Philosophiques* (Geneva: Slatkine Reprints, 1979). On eclecticism as the dominant philosophy of the July Monarchy, see Jan Goldstein, *The Post-Revolutionary Self*.

65. H. Jador, *Les justes alarmes de la classe ouvrière au sujet des mécaniques, par un vieux typographe victime de l'arbitraire* (Paris: au Palais Royal chez les marchands de nouveautés, 1830), cited in François Jarrige, "Les ouvriers parisiens et la question des machines au début de la monarchie de Juillet," in *La France des années 1830 et l'esprit de réforme*, ed. Patrick Harismendy (Rennes: Presses Universitaires de Rennes, 2006), 211–22.

66. Cormac Newark has provocatively linked Meyerbeer's stage machinery and its reception to the ideology of technological progress promoted by the Expositions (Newark, "Metaphors for Meyerbeer").

67. George Sand, quoted in Elliott Mansfield Grant, *French Poetry and Modern Industry, 1830–1870* (Cambridge: Harvard University Press, 1927), 33. George Sand, *Les Sept cordes de la lyre* (Brussels: Meline, Cans, 1839).

68. In "Signs of the Times," in *A Carlyle Reader: Selections from the writings of Thomas Carlyle*, ed. G. B. Tennyson (Cambridge: Cambridge University Press, 1986), 31–54.

69. On the Saint-Simonians's pioneering view of music and other arts as part of a social "avant-garde," including their interactions with Lizst and Berlioz, see Locke, *Music, Musicians, and Saint-Simonians*; see also Jane Fulcher, "Meyerbeer and the Music of Society," *The Musical Quarterly* 67, no. 2 (1981): 213–29.

70. Charles Fourier, *Theory of the Four Movements*, trans. G. Stedman Jones and I. Patterson (Cambridge: Cambridge University Press, 1996); Constantin Pecqueur, *Economie Sociale: Des intérêts du commerce, de l'industrie, de l'agriculture et de la civilisation en général, sous l'influence des applications de la vapeur, machines fixes, chemins de fer, bateaux à vapeur, etc.* (Paris: Désessart, 1839), 5, 409. Fourier's utopia was essentially musical: the secret to social order lay in the "Keyboard of Powers" and the "scale" of passions; each of his "phalansteries" had an opera in which members learned the principles of social and affective "harmony." See Charles Fourier, "Du Clavier puissanciel des caractères," *La Phalange* 6 (1847): 5–47; 97–135.

71. Karl Marx, "Economic and Political Manuscripts of 1844," in *The Marx and Engels Reader*, ed. Richard Tucker (New York: Norton,

1978), 66–125.

72. Karl Marx and Friedrich Engels, "The Manifesto of the Communist Party," *ibid.*, 469–500.

73. *Freischütz* was first performed in Paris in a version created by Castil-Blaze entitled *Robin des Bois*. Maurice Schlesinger also produced a vocal score in French translation, while Charles Laffillé published the first excerpt of *Freischütz* in 1823, an arrangement of "Und ob die Wolke," before Schlesinger and Castil-Blaze produced either of their versions. See Mark Everist, "Une Leçon de morale—German Music Drama," in *Music Drama at the Paris Odeon, 1824–28* (Berkeley: University of California 2002), 250–82.

74. The connection between musical instruments, technology, and the spirit realms also played out in virtuosic instrumental performance in this period. Paganini's skill on the violin—which involved a number of special effects, including scordatura artificial harmonics—was commonly described as devilish and demonic, but also as angelic. See Maiko Kawabata, "Virtuosity, the Violin, the *Devil* . . . : What Really Made Paganini 'Demonic'?" *Current Musicology* 83 (2007): 85–108.

75. Balzac, "Gambara," 106

76. *Ibid.*, 108.

77. *Ibid.*, 108.

78. *Ibid.*, 64.

79. On connections between pathology, the fantastic, and music, see Francesca Brittan, "Berlioz and the Pathological Fantastic: Melancholy, Monomania, and Romantic Autobiography," *Nineteenth-Century Music* 29, no. 3 (2006): 211–39.

80. Balzac, "Gambara," 72.

81. *Ibid.*, 113. One of the few suggestions as to why this would be the case is Andrea's smug statement after hearing Meyerbeer's opera that "this German has created, as you say, a sublime opera without concerning himself with theory, while the composers who write grammars of their art like literary critics are quite capable of being detestable musicians." *Ibid.*, 126.

82. *Ibid.*, 109–12.

83. *Ibid.*, 111.

84. *Ibid.*, 114.

85. *Ibid.*, 114.

86. *Ibid.*, 114–15.

87. *Ibid.*, 115.

88. *Ibid.*, 116.

89. *Ibid.*, 120.

90. *Ibid.*, 121.

91. *Ibid.*, 121.

92. *Ibid.*, 122.
93. *Ibid.*, 124.
94. *Ibid.*, 123.
95. *Ibid.*, 119.
96. *Ibid.*, 126.
97. *Ibid.*, 105.
98. Balzac, "Avant-Propos," *La Comédie Humaine*, 1: 9.
99. Balzac, "Gambara," 125.
100. Such scenes of technological transubstantiation abounded in this period. Not only the opera, but labor, tools, and a range of "romantic machines" were seen as a means of enlivening matter with spirit (see Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* [Berkeley: University of California Press, 1992]). Further, Balzac's refigured, semi-secular communion can be linked to contemporary reinvestments in fetishism (as in Auguste Comte's Religion of Humanity) and the cult of the printed word. See Paul Bénichou, *Le Sacre de l'écrivain, 1750–1830; Essai sur l'avènement d'un pouvoir spirituel laïque dans la France moderne* (Paris: J. Corti, 1973).
101. Balzac, "Gambara," 129.
102. *Ibid.*, 132; translation slightly modified.
103. Balzac, "Gambara," 130.
104. A key scene in *Search for the Absolute* has Claës responding to his wife's tears—and her warnings about the Devil's temptations—with the observation, "I have decomposed tears." Balzac, *La Comédie humaine, Etudes philosophiques*, 10: 719.
105. See Gary Tomlinson, "Composing Schopenhauer," in *Metaphysical Song*, 107–8.
106. See, for example, Carolyn Abbate, *In Search of Opera* (Princeton: Princeton University Press, 2003).