Demon, quack, scientist, or saint

Depictions of doctoring in the operatic literature

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or centuries, physicians have appeared in works of literature, art, and music. Molière was famous for the depiction of physicians in his plays of the seventeenth century. The art of Honoré Daumier portrayed a satirical view of the doctor of his time. These artists, and the many others who made physicians their subjects, used their works as a means of commentary on actual events surrounding doctors and patients during the periods in which they lived. Operatic literature also offers representations of medical practitioners. Physicians were portrayed in opera not simply to advance the plot, but represented, through the text and music, popular views of the medical profession. In particular, four operas-L'Elisir d'Amore by Gaetano Donizetti, Wozzeck by Alban Berg, Les Contes d'Hoffmann by Jacques Offenbach, and La Traviata by Giuseppe Verdi-have libretti (texts) written during the first half of the nineteenth century. Although these libretti were all written within the same 40 years, each opera contains a very different portrayal of the medical profession.

L'Elisir d'Amore

Physicians have been depicted as buffoons and quacks in popular art and literature for hundreds of years. The plays of Molière, the cartoons of Daumier and Hogarth, and the operas of Mozart, Rossini, and Donizetti have all included pompous, self-aggrandizing, and fraudulent physicians as characters. Much of this satirical depiction has its basis in fact, as quacks were then commonplace in Europe. The most prominent was the classic charlatan, who rode his carriage into the town square, drew a crowd with entertainment, and then hawked his drugs with a pressured sales pitch. The term *charlatan* originally denoted "an unqualified practitioner of medicine and, more specifically, an itinerant mountebank."^{1p133} Dr. Dulcamara in Donizetti's *L'Elisir d'Amore (The Elixir of Love)* is certainly consistent with this definition, as he humorously attempts to swindle a naive country boy into buying his "elixir of love."

Gaetano Donizetti (1797–1848) was one of the most productive operatic composers in Italy during the first half of the nineteenth century. One of his most celebrated works is *L'Elisir d'Amore*, composed in 1832, with the libretto written by his longtime collaborator, Felice Romani. For the book of the opera, Romani referred to a score by French composer Daniel François Auber entitled *Le Philtre*, produced in Paris in 1831, with text by the famous French librettist Augustin Eugène Scribe.^{2pvii} It was common for composers of Italian opera in the first half of the nineteenth century to look to the French for libretti. The depiction of the physician in this opera is thus largely based on the French perspective.

In the opera, young Nemorino is madly in love with the country girl, Adina. The setting of the opera in a rural village is significant, as country towns were a mecca for mountebanks; free from the police controls of the city, they could take advantage of the rural population.^{1p157} Unfortunately for Nemorino, Adina has her heart set on a handsome soldier. His luck changes when Dr. Dulcamara comes into town selling his "elixir of love," really a cheap bottle of Bordeaux. Nemorino surrenders all of his money for this magic potion. After he

drinks the elixir, the women of the town adore him, but only because they have just found out that Nemorino has inherited a large sum of money. Adina becomes aware of the attention that Nemorino is receiving, and ultimately falls in love with him. The doctor is amazed that his elixir works to bring not only love, but also money.

The name *Dulcamara* literally means *bittersweet*. The name would have reminded the opera's initial audiences of several drugs whose names contained the words *dulcis* (sweet) or *amara* (bitter).^{3p145} The first we hear of the doctor is in Act I, Scene 4, as the chorus announces his arrival. A trumpet call is heard offstage. For centuries, the trumpet has been associated with royalty, and therefore Donizetti understand-ably chose this instrument to satirize his buffoon physician. The chorus sees Dulcamara offstage, and comments on his shiny golden carriage. Indeed the classic itinerant in France traveled through the provinces in a carriage that doubled as

a platform for selling his services and elixirs to the crowd.^{1p147} The chorus sings, "Certo egli è un gran personnagio, un barone, un marchese," roughly, "Certainly he is a man of great importance, a baron, a marquis." This text highlights the haughtiness of Dulcamara, and is supported by music consisting of successive staccato quarter notes and quarter rests, and dotted-quarter notes and eighth notes. In the eighteenth-century French style, dotted rhythms such as these were used as a sign of royalty and pomposity, but here they are used in the nineteenth century as musical satire.^{4p20}

In the next scene, Dulcamara arrives on stage standing in his gilded carriage. The scene begins with a quick fanfare in the orchestra, followed by Dulcamara singing similar musical phrases that rise in pitch with each pretentious greeting to the crowd. The text of the aria that follows resembles the handbills that late eighteenth- and early nineteenth-century charlatans distributed to the public. Many such handbills

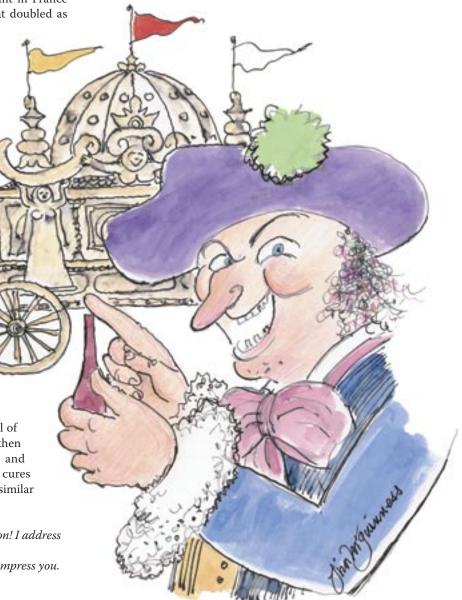
survive, and typically demonstrate a tripartite construction. The opening announced the arrival of the empiric and offered credentials. The flyer then described the mountebank's list of operations and remedies, and finally offered a list of successful cures or testimonials.^{1p139} The text of the aria follows a similar structure:

I greet you, salute you, O country folk! Pay attention! I address you!

In brief, I gather, my fame is such it cannot fail to impress you.

I'm noted as a scientist, practitioner and specialist, I'm Dr. Dulcamara, physician who is famous for his treatment of cases

All over the world ... and ... and ... and other places! To benefit humanity is my supreme ambition, To empty out the hospitals my dedicated mission. My aim is health and happiness alike for rich and poor. For ev'ry ill, for all who ail I sell the proper cure. My panaceas never fail, they're absolutely sure. My panaceas never fail, they're absolutely sure. For instance, here's a liniment, my special pain reliever; It does away with mice and rats, and also with a fever. For cases which are chronic, there's nothing like this tonic!...





By and about the author

I spent my first 21 years trying to de cide what I was more passionate about, music or medicine. After long consideration, I decided not to decide. My undergraduate degree at the University of Rochester was in music. I went to med-

ical school at the University of Rochester to pursue my ambitions to improve the lives of children through the art of medical science, while continuing to work as a singer and a conductor of orchestral, choral, and musical theater works. Many of my summers have been spent on Cape Cod as a principal conductor for the College Light Opera Company, with some of the most talented, vibrant young performers I have ever met. I am currently the David Hamilton Smith Pediatric Research Fellow at the University of Rochester, doing research at the American Academy of Pediatrics' Center for Child Health Research, and will pursue residency training in pediatrics in 2005.

And here I have a recipe especially prepared by me For curing any malady immediately and unfailingly. It kills the worst rheumatic pain, relieves a cough and muscle strain;

No matter what your trouble is, it makes you feel like new. Though this may be a paradox, it also cures the chickenpox, It makes hysteric girls serene, makes thin men fat, and fat men lean.^{5p93-103}

Dr. Dulcamara boasts that he can cure the incurable and perform miraculous and incredible feats, just as did the typical mountebanks of the time.^{1p142} Dulcamara's claim that one recipe will cure any malady was also satirized in nineteenth century visual art. The caption of a Daumier print reads:

"Listen carefully! If you're asked for *muslim Rachout*, to fatten up all kinds of sultanas, for *Arabian nafé* for suckling children of all ages, for *Oriental Kaiffa* to cure gastritis and corns, for *Teribronne* to stop vomiting, for *Amandine*, *Hindustani*, *Osman Igloo*, *Paraguay-Roux*, *Salep Chocolate*, *Hypocrasse*, *White Mustard* for black moods, tooth-ache and deviations in height, or *Giant Cabbage-seed*, you'll find it in this bag, the same one for them all, make no mistake!!! And give it to 'em in the form of a powder, a paste, a solution or pellets, as you see fit."

"Gee, what kind o' pellets are they, anyway?"

"They're fool pellets of the best quality."

"Wonderful! Wonderful!"6p128

This aria also makes use of several musical conventions that supports its satirical text. The text of "to benefit humanity is my supreme ambition . . . my panaceas never fail" is set to successive dotted rhythms, serving to satirize Dulcamara's apparent royalty. Immediately following, Dulcamara bursts into examples of his cures and testimonials, set to successive, fast eighth notes. Audiences would associate the sound of this fast, sung patter with the well-established, high-pressure sales techniques of charlatans of the time.^{1p150} Dr. Dulcamara makes several more appearances throughout the opera, and each time Donizetti uses similar musical devices to reinforce the satire of his buffoon physician.

Wozzeck

Medical science in Germany and Austria, which could collectively be called the "German School," came to prominence during the first half of the nineteenth century, when a large group of physicians, driven by the progress of the Scientific Revolution in the sixteenth and seventeenth centuries, desired more science in medicine.^{7p93} In the nineteenth century, students from all over the world traveled to Germany and Austria for university training in all disciplines, including medicine.7p102 A British observer in 1885 said, "There is no people which has given so much thought and pains to the development of its university system as the Germans have done. ... none where they play so large a part in the national life."8p159 Despite this push for academic science in medicine, recent revisionist accounts suggest that the nineteenth-century patient gained little, the major beneficiaries being physicians, who used science as a means of professional advancement and as an aid to achieving a monopoly in health care.7p118 Using bitter satire, Alban Berg corroborated this interpretation through his characterization of the early nineteenth-century Doctor in his opera Wozzeck.

Alban Berg (1885–1935), the youngest member of the Second Viennese School (consisting of Arnold Schoenberg, Anton Webern, and Berg), began intensive work on *Wozzeck* in 1918; the first production was staged in 1925. The basis for this portrayal of a poor soldier exploited and persecuted by those with more wealth and power was the 1836 play *Woyzeck* by Georg Büchner (see "Georg Büchner's *Woyzeck*: A Tragic Example of Human Experimentation without Informed Consent" in *The Pharos*, Spring 2004, pp. 23–28). *Wozzeck* thus depicts the cultural and sociological issues of early nineteenth-century Germany and Austria. This explains why such a bitterly satiric depiction of the rewards a doctor could expect from research appeared in 1925, at the start of medicine's "Golden Age," when public opinion of physicians was very favorable.^{3p152}

Wozzeck, a poor soldier who needs money to support his family, turns to a Doctor offering money to research subjects for his dietary experiments. The Doctor's first exchange with Wozzeck consists of an angry reprimand for coughing in the



street. In response to Wozzeck's plea that nature forces him to cough, the Doctor responds, "Have I not proved quite clearly that the muscles are subject to the human will?"9p112 This statement is the first of several in which the Doctor invokes "experimental science" to justify his outrageous opinions, which have little basis in legitimate science. The conversation then turns to the Doctor's dietary experiments. In a rising musical line the Doctor states, "I'm starting a whole revolution in medicine: albumen, fats too, carbohydrates, and next oxyaldehydanhydridum."9p118 The therapeutic diet regimen had its origins in the precepts of Hippocrates, and held sway until well into the nineteenth century, at which time the role of diet and agriculture in human physiology and chemistry was being explored in greater detail.^{7p18} The play *Woyzeck* was written 10 years after Justus von Liebig (1803–1873) founded his famous laboratory in Giessen, creating a research school in chemistry with outreaches in medicine, pharmacy, agriculture and industry. He believed that by measuring a person's intake of food, water, and oxygen, and output of excretions and exhalations, much could be inferred about the chemical processes inside the organism.^{7p96} In *Wozzeck*, the Doctor's diet revolution had its roots in the food chemistry work, also called agricultural chemistry, of Liebig. Liebig was also known to be arrogant and vain, promoting his own discoveries despite opposing evidence, much like Büchner's, and Berg's, Doctor.3p152

Immediately after proclaiming his dietary theories, the Doctor becomes angry with Wozzeck for noncompliance with his instructions. In keeping with Enlightenment literary satiric tradition, the Doctor resorts to using Latin to highlight the social class and intellectual differences between himself and Wozzeck.^{3p147} He tells Wozzeck, "You are quite obsessed by an *Idée fixe*, such an excellent *aberatio mentalis partialis* second species!"^{9p134} The idea of the superior paternalistic physician

monitoring his inferior patient emerged from the late eighteenth century and the work of Johann Peter Frank (1745–1821). Frank, an internationalist who served the governments of Germany, Italy, Lithuania, Russia, and Austria, was famous for his System einer vollstandigen medicinischen Polizey ("System of complete medical police"). According to this deeply paternalistic theory of social medicine, the medical police were to ensure, by surveillance and intervention, that social conditions and individual habits were not detriments to the health of the society.^{7p57} The Doctor in *Wozzeck* is a commentary on this theory.

At the end of the scene, the Doctor becomes ecstatic about the fame and "immortal rewards" that his experiments will bring him. He sings, "Oh! my hypothesis! Oh, my fame! I shall be immortal!"^{9p145-150} Although he uses the term "hypothesis," his experiments are actually de-

signed to justify his own preconceived ideas about science and nutrition without regard for the scientific method or the well-being of the patient.^{3p147} Berg's use of pitch and rhythm emphasizes the satire in this text. The Doctor's vocal part, consisting of long accented notes, contrasts significantly with the shorter, faster note values sung by this character up to this point. In addition, Berg highlighted the text "Oh, my hypothesis!" by using a group of pitches at fixed intervals but different durations, called a set, to emphasize and comment on the Doctor's claim. The Doctor sings the notes D#-C#-B-A-G-C in whole notes and half notes, notes of long duration that allow the text to be heard. Meanwhile, underneath this vocal line, the strings play the same intervals (though not the same pitches) in a faster, repeated eighth-note pattern. This technique of using faster note values of the same theme is called diminution, and highlights the pitch set by being repeated multiple times underneath the long vocal line. The Doctor's first statement of immortality begins very low in the singer's register, but each successive statement rises in pitch until a fortissimo climax on a high E^{\flat} to begin the last iteration of the word "immortal." The Doctor's almost sadistic need to experiment continues to emerge later in the opera when he threatens Wozzeck's Captain by saying, "I'd like to assure you that the progress of your illness surely will be most fascinating ... we shall do the most immortal experimenting."9p226-27 Again, slower note values are used for the word unsterblichsten ("immortal") to stress and support the text musically.

Les Contes d'Hoffmann

As prevalent in Europe as the street mountebank hawking his outrageous cures and the paternalistic physician selfishly invoking the name of science was the folk healer who used prayer, magic, and rituals. Such healers used invisible forces or powers to diagnose and cure disease. Stories of magical powers existed for many of the popular folk healers of the early nineteenth century, and helped to elevate the folk healer's status above that of ordinary practitioners who could not claim such expertise.^{1p195} A subset of these folk healers included magicians, enchanters, and witches, characterized by their use of spells and incantations instead of prayer. Their prescriptions were marked by superstitious activities such as repeated rituals. Their charms appeared to work only through the power of the Devil, with whom many of these witches had entered into a contract.^{1p231}

Dr. Miracle in Offenbach's operetta *Les Contes d'Hoffmann* (*The Tales of Hoffmann*) demonstrates many of the characteristics of the evil magician who is the personification of a demon, death, and disease. Jacques

Offenbach (1819–1880) was most famous for his popular lighthearted and satiric operettas. His final and most ambitious work was *Les Contes d'Hoffmann*, which he completed while dying of the complications of gout in 1880. As its title implies, the operetta was based on three short stories written by German writer and critic E.T.A. Hoffmann between 1814 and 1822. French writers Jules Barbier and Michel Carré adapted these stories to a stage play entitled Fantastiques d'Hoffmann in 1851, which was subsequently turned into the libretto for Offenbach's operetta. Each act of the operetta is based on a different story. Dr. Miracle appears in the last act, based on the Hoffmann story "Councillor Krespel,"10p59 a tale of a man and his daughter, Antonia, who develops a flush in her cheeks whenever she sings. Her father, Krespel, forbids her to sing for fear that she will die of a disease in her chest, just as her mother, also a singer, died of a chest disease exacerbated by her singing. In nineteenth-century Europe, tuberculosis, commonly called consumption, was believed to be hereditary and was associated with artistic genius. Antonia's appearance, genetics, and artistic notions could thus easily cause her father to worry about consumption.^{11p36-37} The doctor in the original story plays a very minor role in the action: typical of late eighteenthand early nineteenth-century medicine, he speculates that Antonia has an organic defect in her chest without any basis in clinical observation or medicine.10p61

Dr. Miracle first appears in the 1851 Barbier and Carré play. The creation of this character in the French version of this German story might have arisen from negative French perceptions of German medicine at the time. Franco-German rivalries occurred throughout the nineteenth century, climaxing in the Franco-Prussian War of 1870, and certainly affected the art and literature of the time.^{7p145} Since Dr. Miracle was developed for the French play, it is crucial to view the character as a French depiction of the folk healer.

In the operetta, Dr. Miracle is the evil demonic physician accused by Crespel (French spelling) of killing his wife. "Dr. Miracle" was a common name for quacks of late nineteenth-century France.^{3p146} The contemporary audience thus immediately recognized in Dr. Miracle a quack who attributes supernatural powers to himself.^{10p59} At the time Offenbach was composing the operetta, he was dying of the complications of gout, and his son was dying of tuberculosis. Offenbach may have depicted the doctor as a satanic folk healer because of his own distaste for and discouragement with the medical profession.

> In the operetta, Dr. Miracle arrives to "treat" Antonia's chest illness, much to Crespel's fear and anger. Ultimately, the demonic doctor entices Antonia to sing, knowing that it will lead to her death. Antonia dies at the



line is added as Dr. Miracle states, "Le pouls est inégal et vif, Mauvais symptôme" ("The pulse is irregular and fast, a bad symptom.").^{12p204} This statement would have rung true with audiences of the time; in the late eighteenth and early nineteenth centuries, diagnosis was based on little more than the patient's history, pulse, and examination of the tongue and skin and possibly urine.* ^{7p33,13}

Dr. Miracle then watches the invisible Antonia return to her chamber. The door magically closes on its own. In a frenzy, the doctor begins to draw vials of medication from his pocket, while the music returns to the Miracle motive, reminding the audience of Dr. Miracle's malice. The motive grows more dizzying and horrifying, making the

end of the act and, ironically, it is Dr. Miracle that pronounces her dead.

Like Donizetti and Berg, Offenbach uses musical devices to strengthen the dramatic power of his text and to support the depiction of his physician character. The first mention of Dr. Miracle occurs over a dissonant sonority to suggest evil to the audience, with an E^{\flat} and B^{\flat} occurring over a C^{\flat} and D^b in the bass. The bass also introduces an ascending thirddescending second triplet motive (the Miracle motive). This motive recurs at several key points throughout the operetta, and serves as a unifying device symbolizing the malevolence of Dr. Miracle.^{12p196} Crespel shouts, "Enfer!" ("Hell!") upon Dr. Miracle's entrance. The trio that follows begins with the doctor singing, "Pour conjurer le danger, il faut le reconnaître" ("In order to avert the danger, it is necessary to recognize it."). This opening motive outlines and highlights the interval D-G^{\ddagger}, which is called a tritone or augmented fourth.^{12p200} Since the eighteenth century, the tritone has been called diaboli ("devil"), and audiences understood its connotations when they heard its distinctive sound.^{4p110} During this scene, Dr. Miracle displays his supernatural powers. He extends his hand towards Antonia's room and the door magically opens. He then leads an invisible Antonia to a chair and performs a history and physical examination. He asks her age and, after making a gesture suggesting that he is listening to her answer, correctly notes that she is twenty. He then appears to feel her pulse. Offenbach depicted the pulse musically with a repeated pattern of three sixteenth notes. The musical pulse increases in intensity, speed, and volume, and an eerie chromatic listener feel trapped by the music and Dr. Miracle's words.^{10p64} The tempo and volume increase as the trio comes to a fantastic close.

In another trio prior to the finale, Dr. Miracle convinces Antonia to sing by using his supernatural powers to conjure up the voice of her dead mother. She submits to his enchantment, and upon singing, dies. Her lover, Hoffmann, pleads for someone to run for a doctor. At this point, the Miracle motive reappears in the bass and Dr. Miracle appears out of nowhere. Ironically, the character that instigated the death of Antonia is the one that nobly pronounces her dead and avoids the blame.^{12p239}

La Traviata

Donizetti's Dr. Dulcamara, Berg's Doctor in *Wozzeck*, and Offenbach's Dr. Miracle are satirical and critical depictions of bad doctoring. However, physicians were occasionally represented more positively. Giuseppe Verdi's Dr. Grenvil, although a minor character in *La Traviata* (*The Transgressor*), is none-theless an important example of the compassionate practitioner, and one rarely seen in the operatic literature. Rather than using satire, Verdi and his longtime librettist, Francesco Piave,

^{*} The idea of the fast, irregular pulse as a negative symptom was used commonly in the medical profession and in the literature about illness. In fact, the doctor in *Wozzeck* also makes several references to the pulse, warning Wozzeck that his pulse is "short, hard, and arrhythmic."

present a sympathetic interpretation of a physician at a dying patient's bedside.

Giuseppe Verdi (1813–1901) was most famous for his introduction of political and patriotic themes into the world of opera. *La Traviata*, composed in 1853, is the story of Violetta Valery, a rich socialite. Piave adapted his libretto for the opera from the 1848 novel and play, *La Dame aux Camélias* by Alexandre Dumas *fils*. Like *L'Elisir d'Amore*, *La Traviata* is an Italian opera based on a French libretto, and thus aspects of life in both countries are present in the opera.

Dr. Grenvil makes his first appearance as part of the large crowd attending Violetta's party at the beginning of the first act. Many physicians of the time were of the highest social classes, and were frequently friends with their patients. The doctor's only solo appearance is at Violetta's deathbed. When Violetta's maid sees Dr. Grenvil, Violetta responds, "Oh il vero amico!" ("He is a true friend!").^{13p193} This relationship between physician and patient is built on compassion and trust, two of the essential characteristics of any good doctor-patient relationship, regardless of the era. Like the doctors in *Wozzeck* and *Les Contes d'Hoffmann*, Dr. Grenvil feels Violetta's pulse. He comforts her by telling her that she will return to health. On leaving her, however, a final musical cadence occurs as he confides to her maid that Violetta will be dead in hours.

Physicians of today may find Dr. Grenvil's approach unsatisfactory. When taken in context, however, his actions were the only compassionate option. By the late 1830s, physicians increasingly recognized that nature, rather than medication and intervention, often determined the outcome of certain diseases. A significant part of clinical wisdom in the nineteenth century was the ability to judge when a patient's condition was hopeless, and to prepare the patient and the family for the end.7p211 Dr. Grenvil knows that no medication will help Violetta, and therefore uses sympathetic watchful waiting to help her die with dignity.^{3p151} He also demonstrates a quality lacking in the other three doctors, humility. He acknowledges his limitations and those of medical science. One may wonder why he lied to his patient about her condition, but it is important to remember that paternalism was the dominant model of doctor-patient relationships in the early nineteenth century. Many physicians of the time preferred to withhold information about the seriousness of a patient's condition because they believed that hope was one of the best medicines available.7p211 Dr. Grenvil illustrates the compassionate and empathetic physician of the day, who sought to preserve the dignity of a dying patient and her family.

A musical work, like other art forms, is a mirror and a window into the cultural ideas and anxieties of the period during which it was written. In the first half of the nineteenth century, medical science and the practitioners of medicine were the subject of criticism, satire, and occasionally admiration, in popular culture. These four operas in particular illustrate the variety of perceptions about physicians between 1814 and 1854. While the music to these works was composed over the course of a century, all of the libretti were written during these 40 years, reflecting popular views of that time. The texts and music together express their varying representations of the medical profession. Lampooned as quacks, criticized for the reckless pursuit of scientific knowledge, accused of supernatural evil powers, and even admired for compassion, these operatic examples paint the diversity of opinions and popular perceptions about doctors in early nineteenth century Europe.

References

1. Ramsey M. Professional and Popular Medicine in France, 1770–1830: The Social World of Medical Practice. Cambridge: Cambridge University Press; 1988.

2. Lawrence R. L'Elisir d'Amore. In: Donizetti G, Romani F. L'Elisir d'Amore (The Elixir of Love). Martin R, Martin T, translators. Milwaukee (WI): G. Schirmer; 1960.

3. Estes JW. The changing role of the physician in opera. Opera Quart 1993; 10: 142–55.

 Ratner LG. Classic Music: Expression, Form, and Style. New York: Schirmer Books; 1980.

5. Donizetti G, Romani F. L'Elisir d'Amore (The Elixir of Love). Martin R, Martin T, English version. Milwaukee (WI): G. Schirmer; 1960.

6. Mondor H. Doctors and Medicine in the Works of Daumier. de Chabanne C, translator. Boston: Boston Book and Art Shop; 1960.

7. Bynum WF. Science and the Practice of Medicine in the Nineteenth Century. Cambridge: Cambridge University Press; 1994.

8. Merz JT. A History of European Scientific Thought in the Nineteenth Century. Volume I. New York: Dover Publications; 1965.

9. Berg A. Georg Buechner's Wozzeck: Opera in 3 Acts (15 Scenes). Blackall E, Harford V, translators. Vienna: Universal Edition; 1955.

10. Peschel ER, Peschel RE. Medicine, music, and literature: The figure of Dr. Miracle in Offenbach's Les contes d'Hoffmann. Opera Quart 1985; 3: 59–71.

11. Hutcheon L, Hutcheon M. Opera: Desire, Disease, Death. Lincoln (NE): University of Nebraska Press; 1996.

12. Offenbach J. Les Contes d'Hoffmann (The Tales of Hoffmann). Meltzer CH, translator. New York: G. Schirmer; 1911.

13. Verdi G, Piave FM. La Traviata: Opera in Three Acts. Martin R, Martin T, translators. New York: G. Schirmer; 1956.

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