Music and the Brain from Descartes to Helmholtz
Carmel Raz

I have often asked myself: Is it because certain persons are mad, that they interest themselves in music, or is it that music has driven them mad?
–Hector Berlioz

Musical strings always accommodate themselves to, and lean towards the state into which they were last put… Let us suppose something analogous to this to take place in the component molecules of the brain.
–David Hartley

Description

This undergraduate seminar offers historical and critical perspectives on music and the brain between approximately 1660 and 1870. Through engaging with scholarship and primary sources from disciplines including musicology, philosophy, and the history of science and medicine, we will focus on the role of music in shifting understandings of mental states, aesthetic ideals, methods of treatment, and questions of sensation, attention, and cognition. We will examine the role of resonance and vibration in various models of mental activity, conceptualizations of music as a healing or destabilizing medium, as well as the role of musical instruments and sounds in different philosophical and physiological theories of the body. Based on our readings and investigations, students will develop new strategies for engaging with music from analytical, historical, and scientific perspectives. The course is intended to foster interdisciplinary engagement between musicology, the history of science and medicine, and disability studies, providing students with critical tools to examine constructions of music and the brain in various contexts.

Assignments and Grading Breakdown:

1. Final paper (ca. 15-20 pages) and presentation (50% of grade)
2. Active class participation (20% of grade)
    - Come to class prepared to discuss and critique the readings assigned each week.
3. 2 short writing assignments in weeks 6 and 9 (ca. 750 words). (15% of grade).
4. Introduction of one primary and one secondary source in class (15% of grade)
    - Specific excerpts will be assigned in class.

Policies:

- No computers, tablets, or phones in the classroom.
- Email me ahead of time if you are going to be late / absent.
- Office hours by appointment (room 313 at the Heyman Center)
- There is no required textbook for the class — I will post all texts online.

UNIT 1: TUNING THE MIND

Week 1: Introductions and Stakes

Jonah Lehrer, "Stravinsky" in *Proust Was a Neuroscientist* (New York: Houghton Miffin, 2007).

Ishizu, Tomohiro, and Semir Zeki.,"Toward a brain-based theory of beauty," *PLoS One* 6.7 (2011): e21852.

Week 2: Music as a Model for the Nervous System

Secondary Sources

Jamie C. Kassler, "Man—A Musical Instrument: Models of the Brain and Mental Functioning Before the Computer," *History of Science* 22.1, (1984): 59-92.

Christopher U. M. Smith, "Musical Instruments as Metaphors in Brain Science: From René Descartes to John Hughlings Jackson," in *Neurology of the Arts: Painting, Music, Literature*, ed. Clifford F. Rose (London: Imperial College Press, 2004), 191-206.

Primary Sources [selections]

- René Descartes, *The Passions of the Soul,* trans. Stephen H. Voss (Indianapolis: Hackett, 1989).
- Denis Diderot, "Conversation Between d'Alembert and Diderot," in *Diderot, Interpreter of Nature: Selected Writings,* ed. Jonathan Kemp (London: Lawrence & Wishart, 1963).
- David Hartley, *Observations on Man, his Frame, his Duty, and his Expectations* (London: Thomas Tegg & Son, 1834).

Week 3: Music and Medicine (I)

Secondary Sources

Penelope Gouk, "Music and the Nervous System in Eighteenth-Century British Medical Thought," in *Music and the Nerves, 1700-1900*, edited by James Kennaway (London: Palgrave Macmillan, 2014), 44-71.

James G. Kennaway, "Introduction," in *Bad Vibrations: The History of the Idea of Music as Cause of Disease* (Farnham, Surrey; Burlington, VT: Ashgate, 2012), 1-22.

Michael H. Thaut, "Music as Therapy in Early History." *Progress in Brain Research* 217 (2015): 143-158.

Primary Source: Richard Brocklesby, *Reflections of Antient and Modern Musick, with the Application to the Cure of Diseases* (London: M. Cooper, 1749), pp. 1-31.

Week 4: Music and Medicine (II)

Amy B. Graziano and Julene K. Johnson. "Music as a Tool in the Development of Nineteenth-Century Neurology." *Music and the Nerves, 1700-1900* (London: Palgrave Macmillan 2014): 152-169.

James Kennaway, "Stimulating Music: The Pleasures and Dangers of "Electric Music," 1750–1900," *Configurations* 19.2 (2011): 191-211.

Carmel Raz, "'The Expressive Organ within Us': Ether, Ethereality, and Early Romantic Ideas about Music and the Nerves," *Nineteenth Century Music* 38.2 (2014): 115-144.

Primary sources Samuel S. Warren, "The Thunder-Struck." *Passages From the Diary of a Late Physician* (London: T. Cadell, 1837), 1-52.

UNIT 2: MUSIC AND MADNESS

Week 5: Mesmerism

Stanley Finger and David A. Gallo, "The Music of Madness: Franklin's armonica and the Vulnerable Nervous System," in *Neurology of the Arts: Painting, Music, Literature*, ed. Clifford F. Rose (London: Imperial College Press, 2004), 207-235.

Heather Hadlock, "Sonorous Bodies: Women and the Glass Harmonica," *Journal of the American Musicological Society* 53, no. 3 (2000): 507-42.

Alex S. Evers, "The Case of Maria Theresia Paradis (1759-1824): On the Treatment of (Hysterical?) Amaurosis in a Musician with Music and Suggestion," *Klinische Monatsblatter fur Augenheilkunde* 199, no. 2 (1991): 122-127.

Primary source: Franz A. Mesmer, *Mesmerism: A Translation of the Original Scientific and Medical Writings of F. A. Mesmer*, trans. George Bloch (Los Altos: William Kaufmann, 1980).

Week 6: Madness, Mad Scenes, and Somnambulists

Secondary sources

Sarah Hibberd, "'Dormez donc, mes chers amours': Hérold's *La Somnambule* (1827) and Dream Phenomena on the Parisian Lyric Stage," *Cambridge Opera Journal* 16.2 (2004): 107-132.

Stanley Finger, Vittorio Alessandro Sironi, and Michele Augusto Riva, "Somnambulism in Verdi's Macbeth and Bellini's La Sonnambula: Opera, Sleepwalking, and Medicine," *Progress in Brain Research* 216 (2015): 357-388.

John T. Hamilton, "Introduction: The Subject of Music and Madness," in *Music, Madness, and the Unworking of Language* (New York: Columbia University Press, 2008), 1-19.

- 1st Response Paper Due

Listen to Donizetti and Handel's mad scenes. Compare and contrast the works, noting musical elements used by each composer to connote madness. Contextualize these devices historically.

- Gaetano Donizetti *Lucia di Lammermoor* (1835), mad scene (act 3).
- Georg F. Handel, *Orlando Furioso* (1733), mad scene (act 2)

Week 7: Music and Psychiatry

Secondary sources

Francesca Brittan, "Berlioz and the Pathological Fantastic: Melancholy, Monomania, and Romantic Autobiography," *19th-Century Music* 29, no. 3 (2006): 211-239.

Heather Hadlock, "Mesmerizing Voices: Music, Medicine, and the Invention of Dr. Miracle," in *Mad Loves: Women And Music In Offenbach's Les Contes D'hoffmann* (Princeton: Princeton University Press, 2000), 42-66.

Primary sources: Berlioz, *Symphonie Fantastique;* Offenbach, *Les Contes d'Hoffmann*

Week 8: Dance Manias

Elizabeth Claire, "Monstrous Choreographies: Waltzing, Madness, and Miscarriage," *Studies in Eighteenth-Century Culture* 38.1 (2009): 199-235.

Molly Engelhardt, "Seeds of Discontent: Dancing Manias and Medical Inquiry in Nineteenth-Century British Culture," *Victorian Literature and Culture* 35.1 (2007): 135-156.

Primary Sources [selections] Adolphe Adam, *Giselle* (mad scene, act 1)

UNIT 3: DIAGNOSING MUSIC AND MUSICIANS

Week 9: Pathological Music?

James Kennaway, "From Sensibility to Pathology: The Origins of the Idea of Nervous Music around 1800," *Journal of the History of Medicine and Allied Sciences* 65.3 (2010): 396-426.

Cheryce Kramer, "Music as Both Cause and Cure of Illness in Nineteenth-Century Europe," in *Music as Medicine: The History of Music Therapy Since Antiquity,* ed. Peregrine Horden (Aldershot: Ashgate 2000), 338-354.

Carl H. Göbel, Anna Göbel, and Hartmut Göbel, "'Compulsive Plague! Pain Without End!' How Richard Wagner Played out his Migraine in the Opera *Siegfried*." *BMJ* 347 (2013) 1-4.

Primary Source: Peter Joseph Schneider, case study from *System einer medizinischen Musik* (1835) [I will provide the translation]

- 2nd Response Paper Due

Discuss Schneider's treatment of Lina. What types of decisions is he making? What are they based on? How would a patient with these symptoms be treated today?

Week 10: "Sick" Composers

Christian Blahak, Hansjörg Bäzner, and Michael G. Hennerici. "Joseph Haydn's Encephalopathy: New Aspects." *Progress in Brain Research* 216 (2015): 317-329.

Axel Karenberg, "Frédéric Chopin and His Neuropsychiatric Problem," *Progress in Brain Research* 216 (2015): 343-354.

Dirk-Matthias Altenmüller, "Hector Berlioz and his Vesuvius: an analysis of historical evidence from an epileptological perspective," *Progress in Brain Research* 216 (2015): 167-196.

Primary source: Hector Berlioz, "Spleen and its Varieties," *Memoirs of Hector Berlioz: From 1803 to 1865 vol. 1*, translated by Eleanor Scott Russell Holmes (London: Macmillan & Co, 1884), 224-228.

Week 11: Neurological Diversity

Poundie Burstein, "*Les chansons des fous:* on the Edge of Madness with Alkan," in *Sounding Off: Theorizing Disability in Music*, ed. Neil William Lerner and Joseph N. Straus (New York: Routledge, 2006), 185-198.

Joseph N. Straus, "Composers with Disability and the Reception of their Music," in *Extraordinary Measures: Disability in Music* (Oxford: Oxford University Press, 2011), 15-44.

Radiolab podcast on Anne Addams and Maurice Ravel

Primary sources [selections]: Maurice Ravel, *Bolero*

Week 12: Helmholtz

Amy B. Graziano and Julene K. Johnson, "Music, Neurology, and Psychology in the Nineteenth Century," *Progress in Brain Research* 216 (2015): 33-49.

Julia Kursell, "Experiments on Tone Color in Music and Acoustics: Helmholtz, Schoenberg, and Klangfarbenmelodie," *Osiris* 28 (2013): 191–211.

Benjamin Steege, "Refunctioning the Ear," in *Helmholtz and the Modern Listener* (Cambridge: Cambridge University Press, 2012), 43-79.

Primary sources: selections from Helmholtz, TBD