

A Visions and Voices Signature Event  
Presented in Partnership with LA Opera

Part of the Provost's Series on Wicked Problems

# MUSIC AS MEDICINE

## Renée Fleming and Antonio Damasio in Conversation

Monday, February 5, 2018

Bovard Auditorium

University of Southern California



### ABOUT THE PARTICIPANTS

- ◉ **Antonio Damasio** is University Professor, David Dornsife Professor of Neuroscience, professor of psychology and philosophy, and director of the Brain and Creativity Institute at USC. He has made seminal contributions to the understanding of brain processes underlying emotions, feelings, decision-making, and consciousness.
- ◉ **Renée Fleming** is one of the most acclaimed singers of our time. She is a recipient of the National Medal of Arts and winner of multiple GRAMMY Awards. She has performed on momentous occasions including the Nobel Peace Prize ceremony, the Diamond Jubilee Concert for Queen Elizabeth II, and the Super Bowl. She spearheaded a collaboration between the Kennedy Center for the Performing Arts and the National Institutes of Health called *Sound Health: Music and the Mind*.
- ◉ **Christopher Koelsch** (moderator) has been the president and CEO of LA Opera since 2012.
- ◉ **The Domingo-Colburn-Stein Young Artists** are singers and pianists of exceptional talent who are selected for a paid residency with LA Opera as they transition from academic training to a professional opera career.
- ◉ **Provost Michael Quick** established the Provost's Series on Wicked Problems to take on the most intractable, multifaceted problems of our time. He has created steering committees of deans from across the university to work on topics such as homelessness, security and sustainability, and aging, and supports events like this one that point to potential solutions to "wicked problems."

### MUSIC AS MEDICINE

While formal research into how music affects human health is still a relatively new field, studies are starting to show a significant connection. Here are some things scientists have learned so far:

- ◉ Early musical training produces discernible changes in the brain.
- ◉ Music therapy has provided benefits to patients with conditions including Alzheimer's, autism, chronic pain, Parkinson's disease, and stroke.
- ◉ Music can decrease a person's perceived pain level, and has been shown to reduce stress and anxiety and be useful in treating depression.

### MUSIC THERAPY

Music therapy can take many forms, including improvisation, listening, songwriting, and learning through music. It is a clinical and evidence-based use of music interventions to accomplish specific physical, emotional, cognitive, and/or social goals.

"Music therapy as an organized profession really started gaining momentum around the time of World War I and II," according to Dr. Sheri Robb, editor of the *Journal of Music Therapy* and creator of therapeutic music videos for adolescents and young adults undergoing cancer treatment. "There was an organized movement of musicians going into VA hospitals and working with veterans." The first music-therapy degree programs were established in the 1940s.

### THE USC BRAIN AND CREATIVITY INSTITUTE

The USC Brain and Creativity Institute, based in the USC Dornsife College of Letters, Arts and Sciences, exists to gather new knowledge about human emotions, decision-making, memory, and communication from a neurological perspective, and to apply this knowledge to the solution of problems in the

biomedical and sociocultural arenas. Under the direction of Antonio Damasio and Hanna Damasio, current research at the Brain and Creativity Institute includes projects on the effects of music processing on the developing brain, studies on how the brain structures narrative, and the investigation of feeling and consciousness in humans and machines. Results from the Institute's ongoing work have important applications in the diagnosis and treatment of neurological diseases and psychiatric disorders, child development, and education. They are all relevant to the elucidation of the human condition.

The Brain and Music Program within the Institute is currently studying the effects of music training on brain development, and the connection between music and emotions. Graduate students in neuroscience and psychology have opportunities to work with the Institute.

## FOR FURTHER REFLECTION

- Have you experienced the therapeutic effects of music, or seen its impact on someone you care about?
- Imagine the implications and possibilities of music and medicine. Is there a topic or question that you think might be worth the attention of researchers?
- What do you think about considering creativity as a neurological phenomenon? Does this concur with or challenge your prior conceptions of art and the creative process?

## TO LEARN MORE, CHECK OUT THESE RESOURCES:

- The *Sound Health* blog [medium.com/@SoundHealth](https://medium.com/@SoundHealth)
- The American Music Therapy Association [musictherapy.org/](https://musictherapy.org/)
- The USC Brain and Creativity Institute [dornsife.usc.edu/bci/](https://dornsife.usc.edu/bci/)
- Antonio Damasio's TED Talk on "The Quest to Understand Consciousness" [ted.com/talks/antonio\\_damasio\\_the\\_quest\\_to\\_understand\\_consciousness](https://ted.com/talks/antonio_damasio_the_quest_to_understand_consciousness)
- "Music as Medicine" by Amy Novotney [apa.org/monitor/2013/11/music.aspx](https://apa.org/monitor/2013/11/music.aspx)
- "Music training can change children's brain structure and boost the decision-making network" by Emily Gersema [dornsife.usc.edu/news/stories/2711/music-training-can-change-childrens-brain-structure-and-boost-th/](https://dornsife.usc.edu/news/stories/2711/music-training-can-change-childrens-brain-structure-and-boost-th/)

## DISCOVER MORE AT THE USC LIBRARIES

**ANDREW JUSTICE** and **MELISSA MILLER** of the USC Libraries selected the following resources to help you learn more about Damasio, Fleming, and the themes raised in tonight's event. Resources with a call number are physical resources which you can find in our campus libraries. Those without a call number are electronic resources, which you can access through the search bar on the USC Libraries homepage at [libraries.usc.edu](https://libraries.usc.edu).

### BOOKS

- Damasio, Antonio R. *Descartes' Error: Emotion, Reason, and the Human Brain*. 2000. Science & Engineering Library: QP401 .D2 2000
- Damasio, Antonio R. *Self Comes to Mind: Constructing the Conscious Brain*. 1st ed. New York: Pantheon Books, 2010. Leavey and Science & Engineering libraries: QP376 .D356 2010

- Damasio, Antonio R. *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*. 1st ed. Orlando, Fla.: Harcourt, 2003. Leavey and Science & Engineering libraries: QP401 .D203 2003
- Damasio, Antonio R. *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. 1st ed. New York: Harcourt Brace, 1999. Doheny, Leavey, and Norris Medical libraries: BF311 .D33 1999
- Fleming, Renée. *The Inner Voice: The Making of a Singer*. New York: Viking, 2004. Music Library: ML420.F565 A3 2004

### ARTICLES

- Habibi, Assal, and Antonio Damasio. "Music, Feelings, and the Human Brain." *Psychomusicology* 24, no. 1 (2014): 92-102. [accessible through ProQuest (various)]
- Habibi, Assal, Cahn, B. Rael, Damasio, Antonio, and Damasio, Hanna. "Neural Correlates of Accelerated Auditory Processing in Children Engaged in Music Training." *Developmental Cognitive Neuroscience* 21 (2016): 1-14. [accessible through Elsevier Science Direct Open Access Journals]
- Holmes, Leslie. "A Conversation with Renée Fleming." *Journal of Singing* — *The Official Journal of the National Association of Teachers of Singing* 58, no. 1 (2001): 75-77. [accessible through ProQuest Music Periodicals Database]

### DISSERTATION

- Tuttle, Meghen. *Majoring in Music: How Conservatory Training Changes the Brain*, 2014, University of Southern California. [accessible through ProQuest Dissertations and Theses]

### VIDEOS

- Damasio, Antonio. "The quest to understand consciousness". Filmed [December 2011]. YouTube video, 18:42. Posted [December 2011]. [youtu.be/LMrzdk\\_YnYY](https://youtu.be/LMrzdk_YnYY)
- Damasio, Antonio. "Self Comes to Mind: Constructing the Conscious Brain". Filmed [September 2016]. YouTube video, 53:54. Posted [September 2016]. [youtu.be/Ovwm6EINGZA](https://youtu.be/Ovwm6EINGZA)
- Damasio, Antonio. "Conference; Art and the New Biology of the Mind". Filmed [March 2006]. YouTube video, 24:52. Posted [October 2013]. [youtu.be/B1hxoqwsFvE](https://youtu.be/B1hxoqwsFvE)
- "Master Class with Renée Fleming." National Association of Teachers of Singing (Jacksonville, FL), 2016. 81 minutes. [accessible through Academic Video Online]

### AUDIO-VISUAL

- Verdi, Giuseppe. *La Traviata*. Royal Opera Chorus, Orchestra of the Royal Opera House; Antonio Pappano, cond. Opus Arte, 2011. Music Library: MUSDVD 676
- Fleming, Renée and Jean-Yves Thibaudet. *Night Songs*. Decca, 2001. Music Library: CD-AUDIO 8869mus

