

Out of Hours Event

THE SCIENCE OF OPERA WITH STEPHEN FRY AND ALAN DAVIES

Royal Opera House, London
29 September 2013

Have you ever had goose bumps from *La Boheme*? Tears from *Tosca*? Shivers from *Salome*?

More than 90% of people have cried to music, but fewer than 10% would say the same for a beautiful painting, according to the neuropsychiatrist Professor Michael Trimble. If you have ever been moved by opera in particular, you would have enjoyed *The Science of Opera* at the Royal Opera House, which explored the physiology behind our emotional responses to opera as part of this year's Deloitte Ignite contemporary arts festival.

Scattered with medical props, the intimate Linbury Studio Theatre was the laboratory for our guinea pigs: opera enthusiast Stephen Fry and opera virgin Alan Davies. The 'science bit' was provided by Professor Trimble, Professor Christopher Mathias, a specialist in the autonomic nervous system, and PhD student Andrew Owens from University College London. Earlier, Davies and Fry had watched Verdi's *Simon Boccanegra* while having their blood pressure, heart rate, and sweat gland activity measured. We watched as ghoulish night-vision cameras revealed their changing expressions ('Now we know how badgers feel,' quipped Alan Davies) and



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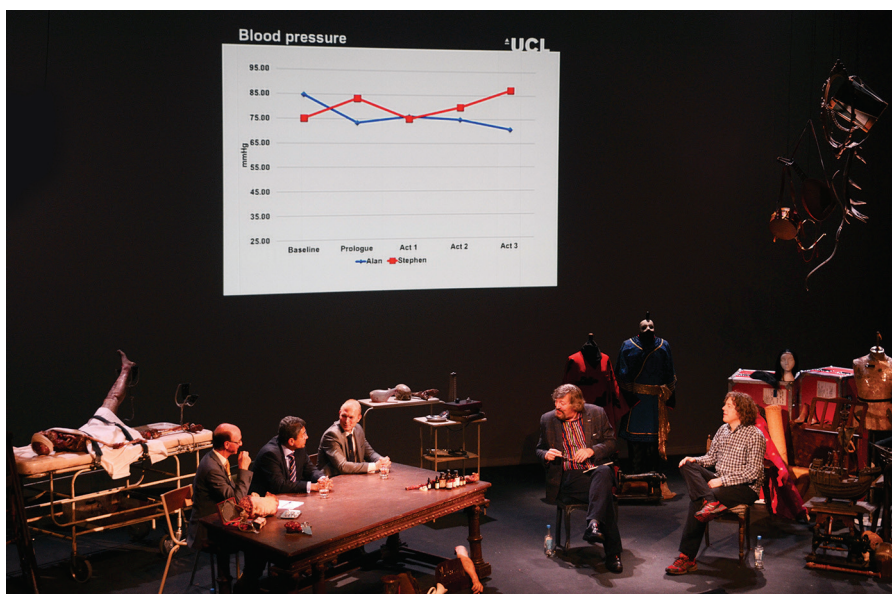
physiological responses at the emotional peaks of the opera.

The most notable physiological impact, other than Fry's increasing sweat gland activity in response to a vodka at the interval, was on heart rate. This increased synchronously in both subjects at the emotional peaks of the opera. What followed was a fascinating discussion into the evolution of music and man; perhaps synchronous emotional arousal in response

to music acted to unite primitive humans, long before the spoken word?

While the lecture didn't break any scientific boundaries, it was a captivating exploration of the union of art and medicine. The basis of opera is said to be love and death, and to some extent the same is true of medicine. As doctors, each day we are witness to extremes of emotion triggered by life as opposed to art, but we shouldn't underestimate the potential therapeutic effect the arts can have on life. In closing, Stephen Fry referenced a study¹ in which mice received heart transplants and were then played music during their recovery. Whereas mice usually lived an average of 7 days, those listening to Verdi's *La Traviata* survived for 27 days. Perhaps we should be rethinking the music we play in our waiting rooms? Choose your tunes carefully however; the survival was only 11 days when subjected to Enya!

The Science of Opera. ©ROH/Mark Ells, 2013.



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REFERENCE

1. Uchiyama M, Jin X, Zhang Q, *et al*. Music exposure induced prolongation of cardiac allograft survival and generated regulatory CD4⁺ cells in mice. *Transplant Proc* 2012 **44(4)**:1076–1079.