

Why Music? Is Music Different from the Other Arts?

Institute of Neurology, Queen Square

7th October 2011

TRANSCRIPTS

Introduction

Professor Michael Trimble

Welcome everybody. It is a great thrill for me to see so many people interested in this subject, which has to do very much with the relationship between neuroscience and the arts. For this particular meeting, one of the fascinating things to me that I hope we can bring out is whether or not music is in some way different from other art forms. I have dwelt on this for a long time and one of the ways I'd like to introduce you to the topic is to do a little bit of research, because as a scientist I always like to do some research. I want to do an experiment, and I'd like you please, if you wouldn't mind, to take part. Now, honesty is extremely important in this experiment, particularly with regards to men. So, those men amongst you who say that they never cry, have now to be honest.

Could you raise your hand if you have ever cried listening to a piece of music? That's probably 99% of you. Could you raise your hand if you have ever cried reading, or listening to a piece of poetry? Probably 70%. Could you raise your hand if you've ever cried standing in front of a painting? 20%. Could you raise your hand if you've ever cried standing looking at a statue? Now I can count the individual hands, there are about 10 of them. And who has ever cried in front of architectural splendour? About the same number, it's a very small number.

It's always comforting in science when your results are replicated. [*Shows slide giving very similar results on screen.*] So, this is crying in response to the arts. With another scientist, Dale Hesdorffer of Columbia, we have been looking at who cries in relationship to the various arts and why. These are two separate studies, one was in Japan and the other was in Europe, both with quite large numbers of participants. What you will see here is that music was top of the list, both in Japan and in the UK, and paintings, statues and architecture are way down the bottom. Now, one thing I didn't ask about, which is of interest here, is the number of people who are driven to tears while reading novels, and I think that's something that might emerge later on in the discussions. There is a gender bias, which is why I said that the men would have to be honest, but the studies do suggest that females, shown here in the pink columns, are more inclined to cry in relationship to artistic experiences. Another interesting thing to me, visiting Japan from time to time as I do, is that we looked at the categories of music for people in Japan that were the most moving, the ones that were emotionally most stimulating, and asked them whether it was Western music, Japanese music, both or neither, and you can see that obviously Japanese music was high, but Western music was high as well. But what to me was most interesting, was that when we asked the Japanese people about what they often listened to, or what they liked, I'm afraid Japanese classical music just doesn't raise their emotions. In Japan, it's actually Western music that is so often captivating the audiences,

particularly in concerts, but also if you go to the opera houses. So there is a cultural matter here, which again we may discuss later on.

Let me move on to the way I hope we may draw out things in the meeting. Philosophy is extremely important in all this and I hope that Professor Roger Scruton will enlighten us into some of the issues that philosophy has brought to this question - whether or not music is different. We have a historical line in this which runs back to the ancient Greeks through to modern time. Neuroscience has come on board in a major way in the last 20 or 30 years, looking at the brain in relationship to our response to various arts; but there's more to it than that, as we will hear.

Throughout the morning and the afternoon, we will be very interested in your responses, and I do hope particularly this afternoon that it will be very interactive and put people's personal experiences to the fore. We might even discuss why it is that those very few number of you who cried in front of a building did so. What kind of building was it? Why? And what the occasion might have been. We will also discuss therapeutic possibilities. There's a number of people who are very interested in art as a form of therapy for people with various disorders, particularly, but certainly not exclusively, psychiatric problems, and we will hear about that. Built into the programme, as you have heard will be some music. Some live music but also some recorded music, which I hope will enliven everything.

There are one or two famous quotes that I want to mention just to bring out a little bit of a divide here, relating to the special place of music. There's a philosophical background to it, which we will hear some of shortly, but I it was Luther, who did so much to alter European culture, who considered that music 'drove out the devil', allowing much more music into the church than had previously been permitted, in the liturgy and in celebrations, but with extremely severe restrictions on what kind of music could be played. Coming to a later time, the famous book on the birth of tragedy, Greek tragedy, is of course Nietzsche's book *The Birth of Tragedy*, which is quoted widely. But not many people realise that the subheading, or the subtitle to it, is *Out of the Spirit of Music*, and music is central to Nietzsche's views of the development of tragedy as an art form. Then there's Schopenhauer's famous quote that 'music reveals the innermost essence of the world'. I leave it to Roger Scruton later, perhaps, to tell us what he really meant by that. And then there's the famous comment by the critic Walter Pater: 'All art constantly aspires towards the condition of music'.

Now of course on the other side you have the more neuroscientific view. There's the famous Pinker quote: 'music is nothing but auditory cheesecake', which some people may support or not. In his point of view, if the world had no music it wouldn't have made the slightest bit of difference to the evolution of Homo sapiens. But now we have the neurosciences and I've a slide from Semir Zeki here, who in his work has outlined a mosaic of different brain areas in the occipital cortex that are activated by certain aspects of visual input. You can see here that they're coloured differently; one down there says V4 for colour. In his book *Inner Vision*, he says some very startling comments, which again may form a basis for discussion. 'Art became more and more better tailored to the physiology of the visual areas' - now he's referring to visual art, and he's referring in particular to the development of modern art, and by that I'm obviously talking about art from the early 20th century. He talks about the emphasis on lines, edges and rectangles in that art, which he says is striking. He talks about how Fauvism, the French school, illuminates area V4, that colour area. He brings out how certain artistic schools were able to activate some specific brain areas and then he makes the statement that 'art must obey the laws of the brain'.

So, there is this contrasting view to ‘auditory cheesecake’, or even perhaps certain philosophical views, when it comes to the neurosciences. But it’s not only the neurosciences. One of my favourite authors, Milan Kundera, says as follows in his *Encounter* essays:

‘The different arts reach our brains in different ways. They lodge there with differing ease, at different speeds, with different degrees of inevitable simplification, and for different durations.’

So, this is somebody who knows little or nothing about the neurosciences but has some perspective on the fact that the brain is involved in our responses to them. One of ways I became particularly interested in the neuroscience of artistic appreciation was by studying the psychiatric problems of various artists. My work was confined to musicians and poets, but it’s striking that I have yet to find a composer in the canon (by that I mean someone whose music we would always recognise, whose music seems longstanding) who has the diagnosis of a clinical schizophrenia. In contrast the biographies are overloaded with musicians who have affective disorders, particular bipolar disorders and various depressive disorders. In neuroscience we are able to distinguish the neurological pathologies that go along with schizophrenia and bipolar disorder and they are quite different. I have found no composer with schizophrenia, and I ask every audience, if you can find one I’d be very interested. There are a few poets, but their poetry deteriorates quite dramatically as their disorder progresses. But it is of interest that poetry and music are linked with affective disorders, and in this audience it is poetry, which stands next to music in bringing out the strongest responses to crying.

What about the other arts? I just don’t know, but there are several famous painters (again I am thinking in the canon) who have been diagnosed with clinical schizophrenia. There is Richard Dadd, the man who was in the Bethlam for many years having murdered his father. There was a recent exhibition of his work in London. The Prinzhorn Collection from Vienna, has Adolf Wölfli, who is just one of the famous schizophrenic artists whose name has come through time, but there are a number of others, who clearly were people psychiatrically with schizophrenia in that collection. Or there was the famous Louis Wain with his cats. As his illness progressed, the images of his cats became more and more extreme and unusual. But I know of no studies of psychiatric disorders in artists, and what about other arts? The sculptors etc who have excited us? So I think there are various avenues where neuroscience touches on this area of the links between the artist and the brain, but also ask the question of whether music is special.

Now we have expanding fields in neuroscience. Neuropsychiatry, a discipline, which is very close to my heart – the study of the brain in relationship to behavioural disorders. The psychoanalysts have jumped on the bandwagon, and there is a discipline called neuropsychanalysis – what happens in your brain when you go through a transference experience for example. We have neurotheology – what are the brain bases of religious experiences, particularly ecstatic experiences? And the new hot topic in the city of London is neuroeconomics. How is it that you’ve got these people who make such terrible decisions? What is it that’s different in their brains from others? And then finally we are back to where we started, which is neuroaesthetics - the link between the brain and aesthetics, which is a basis for the meeting.