

Architecture is not frozen music:

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Introduction to the evening,

Ladies and gentlemen, Music, you may remember, is the food of love. And Shakespeare was right, love needs feeding, it is greedy and goes through the stomach. We may listen to music with our muscles as Friedrich Nietzsche observed, but we also listen with our stomach. Love then, may be fed by the musical equivalent of a piece of hot buttered toast, dripping with thick splodges of sensuous peanut butter. Even a plateful of steaming porridge with a little too much honey can be a deeply moving experience of love at first sight. I must control myself here. We are here tonight to feed our love of music and science. Tonight we shall see the beauty of science reveal how a concert hall is a work of art, a finely tuned instrument, a Stradivarius if you like, making good art even better. Art and science make poor enemies. We should learn to see them more like twins. They may quibble when they are together but when you separate them, they languish and lose their *raison d'être*. Art needs its freedom, but if the freedom of art should be taken to mean that any doodle or scratch makes good art, we are mistaken. Art is free to explore any avenue it wants, but in its exploration of possibilities it is as exacting, as demanding, as meticulous as the best of science. Tonight we shall witness something really special: science and art teaming up together for the love of beauty.

Main speech

Ladies and gentlemen,

Let me begin with Frank Zappa: "A composer is a guy who goes around forcing his will on unsuspecting air molecules, often with the assistance of unsuspecting musicians." Unsuspecting air molecules.... Hmm, the profundity of that statement will today acquire an extra dimension. What are we in fact measuring when we measure sound? We measure not sound as such but the behaviour of air molecules in a space, not in space generally but always in *this* or *that* space. That this behaviour of air molecules is translated to the miraculous quality of sound, is wholly due to our brain which is attuned to its environment and knows how to read the subtlest signs.

Outside our bodies there is vibration of air molecules, but no sound. For sound to be produced from unsuspecting air molecules we need a brain and a body. Sound is the product of our bodies and stays within our bodies. It never leaves us. It is produced in our bodies by the way air, or indeed any other medium reacts to the large shapes of space and the micro-surfaces of materials and the way our body reacts to the resulting patterns of pulsation.

So far so good. But that brings me to Goethe who apparently said that "Architecture is frozen music". Now, I like Goethe very much...but he got this one terribly wrong. Sure, we might say that architecture is frozen music and we might as easily say that music is melting architecture. But both statements are true in a banal kind of way. You wouldn't surely say that a musical score, the paper music is written upon, is music. Of course not! A musical score is only one of the many necessary ingredients for music, we need someone who can read the score, for that someone to have an instrument and the skill and practice to play that instrument well, we need that someone to have an occasion to play the instrument and above all, we need someone to undergo that experience and make music matter. And yet you are telling me that architecture is frozen music? That architecture is simply a kind of musical score, music made to shut up and be quiet? I think a better simile is possible.

Picture this. A temple in India built for the love of a very beautiful woman. Now, Indians apparently like building temples for beautiful women, because, in case you thought I was referring to the Taj Mahal, I was not.

No, I mean instead another temple supposedly built to celebrate the love of a beautiful woman, the Vittala Temple at Karnataka in Hampi. Now instead of showing you a picture of the temple, I want you to imagine it to yourself. I wonder what you'll make of it. You see the special thing about this temple is that it was built as a musical instrument. Its pillars and surfaces were so shaped and materialized that it could be played by skilful musicians and its spaces and cavities resonated with haunting sounds through which our beautiful woman would dance with abandon. Have you a picture of it in your minds? I hope it is suitable for all ages...

It is this picture that may lead us to a fundamental truth about the relationship between sound and surface, between music and building. Knowing the nature of sound as something that is produced by our bodies, we understand that it is the special skill of the composer, the musicians and the space in which they play their music to make the air molecules vibrate in such a way that this soup of pulsating molecules works upon our ability to receive and love the music that emerges in our brain. But that is what we already knew about music. Music is a complicated affair needing an army of factors working happily together to transport us into poetic rapture. And now Goethe tells me that architecture requires all this movement to be frozen still. I don't buy it, and the secret can be found with our magic dancer. You see, as the musicians play their columns, the dancer moves through them. And it is this play of movement that not just produces the dance, but shows us how dance is in fact an essential part of the production of architecture in our minds. Picture yourself now in a building, picture your eyes as they roam through the spaces turning to the light, touching upon the textures and colours as you move with your easy, elegant rhythmical walk; enjoy them changing as you change your position relative to a window for example, think of your ears and skin as it registers the movement of air molecules, your nose and tongue as they register the smells of place. Think of your own memories and associations, of the stories of the place. It is this perambulating dance of sensible registration as you move, that enjoyment of order, rhythm and harmony, forming, breaking up and reforming in movement that constitutes the true melody of architecture. The actual building is to the production of architecture what the musical score is to music, one of the essential ingredients, the product of ingenious composition, but by no means the only one.

Let me give you a better picture than the one offered by Goethe, and if that is an act of arrogance then I apologise, but for all my love of Goethe, my loyalty is to truth and science. Music makes the air move and the moving air is capable of moving us. Dance, is the movement of bodies in space that in their movement are capable of moving us. Architecture is what we as sentient thinking bodies move through, and in moving through it, architecture is capable of moving us.

I would like to finish off with an image of a young Eugène Emmanuel Viollet-le-Duc, one of the great architects of the nineteenth centuries, holding the warm and safely large hand of his tall mum as he entered the vast cathedral of Notre Dame in Paris. Imagine the ribbed stone columns, the vaults as if suspended on a web of string, the sombre light hinting at spaces veiled in deep shade, the rich sparkle of colour from the enormous windows, the musty smell of age, and imagine that at the moment he entered this vast structure full of stories, a choir began singing a solemn chant, the singer, each in their proper sequence, like angels climbing and descending from the lazy stairs of their glorious melody especially composed to be accommodated by spaces such as this. Imagine him feeling his feet walk over the cold flat stones under which the notable of Paris have lain buried for centuries. All that, and I mean *all that* is the experience of architecture. It was during that moment that the little Eugène Emmanuel, just eleven years old, decided his future lay in architecture. It was

that kind of experience he wanted to make. And for such an experience we need science and art to team up. Thank you.