



THE PHYSICS OF art and music

Almost all forms of art are closely related. While it may surprise you, one of the closest relatives to two-dimensional art is music. In fact, the two are almost identical, from a physics point of view. The lowest common denominator to everything in our universe is known as the first law of thermodynamics. This law states that energy cannot be created or destroyed, only transferred. And the law has specific applications to music and art.

Compare the life of an artist such as myself with that of a musician, and you will quickly see what I mean. We both wake up in the morning and have a great breakfast. This charges up that thermodynamic engine. Next, we transform that food into walking, talking, driving and art, like a music score or a sketch. More energy transformation occurs as we transfer the sketch to canvas or the musical score to paper. The musician may use tools like the guitar, drums and horns to bring the music into physical, tangible form called a CD. I do something similar, turning my sketch into a physical painting with stencils, paints and ink.

For the musician, additional transformation occurs as the music CD is converted into sound waves using stereo equipment. The result is compressed air waves that move across space. Eventually, they find a host with receptors (ears) that match their physical properties and are able to transform this energy back into something we can appreciate at a physiological level. The result is a new energy manifestation called dancing.

When it comes to art, I do exactly the same thing but use light waves instead of sound. The light waves

move across space to your eyes, which then transform the light energy (using the first law of thermodynamics) to a physiological form that we can utilize. If all this is done correctly, and the artist does not drop the ball at the light and composition level, the result will be aesthetic arrest typified by goose bumps, adrenalin and dopamine in our cerebral cortex. Not quite as physical as music, but just as powerful in its own way.

If you were to turn up the volume on a song you did not like, it would be annoying. The same principle applies to a painting.

The next time someone asks 'what is art', simply say that art is a refined and controlled transfer of creative shape and form delivered using light energy from one human to another based on the first rule of thermodynamics. Paint (pigmented filters) controls the



Why, then, do so few people dance in the face of art? Unfortunately, many of today's artists have lost their grip on the light and colour energy that is so vital to the transfer of their work. They break the first rule of thermodynamics. I have seen artists work unbelievably hard, poring energy into their work that somehow never seems to reach the viewer simply because they drop the ball at the light, composition or colour level. Nothing happens, even if you could turn up the volume. It is the same with music.

colour spectrum of reflected light and the emotions of the artist control the composition. When executed masterfully, both hold the power to deeply touch each of us at least once in our lives. I am sure this definition will never make it into Webster's dictionary, but it sure does in my creative common sense dictionary. ■

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