Orderly Chaos

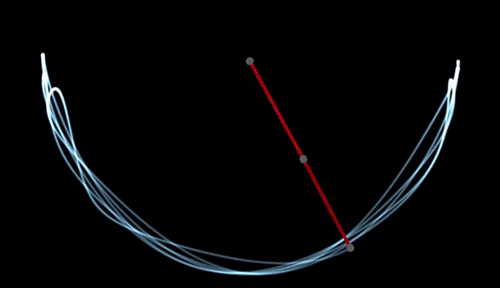
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Chaos is often defined as complete disorder and confusion. It’s the inherent unpredictability in the behavior of a complex natural system. And yet, the Chaos Theory manages to find order in chaos.

The theory, often called the Butterfly Effect, essentially states that chaotic systems are in fact like regular systems but are just highly sensitive to starting conditions. Even the smallest of changes in the beginning conditions would result in wildly different outcomes, giving the impression of a chaotic system.

A double pendulum set up is such a system and is very commonly used to demonstrate and explain the nature of chaotic systems.



In my project, I will be using a double pendulum to create visual art which will demonstrate how the system is highly dependent on the starting conditions.

The idea behind the final project is to make use of a double pendulum and create an assortment of abstract art pieces which, though created using the same tool/method each time, are visually very different from each other.

To create the aforementioned pieces of abstract art, I will be filling up the bob of the double pendulum with some acrylic paint. A balloon with a tiny piercing could possibly act as the bob. I will then place a canvas board under the pendulum, and set the pendulum going. The paint inside the bob is expected to drip onto the canvas and form different abstract patterns. I aim to create around six such small paintings, but for each piece of canvas, I will vary the magnitude of force I use to get the pendulum going. As the system is a chaotic system, I expect the final outcomes to all look very different from each other.

Finally, I shall arrange these bits of canvas in a small grid-like set up in an attempt to bring out the difference in their patterns to emphasise on the randomness of the system.

Thus, as mentioned earlier, the point of this exercise would be to demonstrate how there is order in chaos.