

The Rhythm of Chaos

Yesterday, I walked around my neighborhood dressed as an alien. I put on metallic gold shorts, strange green sunglasses, and a headband with two disco-ball antennas attached. Today, I wore a cowboy hat coupled with a red bandana and marched around.

It is not common to see a seventeen-year-old girl dressed as an alien, nor are cowgirls regularly traipsing the suburban streets of northern Virginia. Nonetheless, it was just another day in Lockdown America: people kept their distance and tried to avoid social interaction with me. This time, I wasn't sure if it was because of covid-19 or because my neighbors think I'm insane.

What inspired this admittedly bizarre behavior? Entropy, or to put less scientifically, chaos. I had just read in my biology textbook about how disorder is continuously growing in the universe. I decided to harness some of this ever-expanding energy. I have become an entropic force.

According to the textbook, there are many ways for a stack of bricks to fall apart, but only one way a wall stays intact. The same is true for humans. As Aristotle writes in *Nicomachean Ethics* "For men are good in but one way, but bad in many." There are infinite ways for the world to go wrong, and only one way for it to be good. Thus, we tend as a species towards destruction.

In our current state, we don't have to look far to find isolation and suffering. The coronavirus outbreak has demonstrated to me, at least, that the world is an absurd place. If you had told me a month ago that I would not graduate in a pretty white dress alongside my classmates, I would have laughed. I probably would have said, "Oh no! What stupid thing did I do to get expelled?" Never could I have imagined that when I left school for spring break, that would be it, *Finis*, but without all the flourish.

And nonetheless, my life is reality. The impossible has become actual. The world has not ended, at least yet. We have this strange tendency to fantasize about the end of the world, and then when something truly bizarre and terrible happens, we roll with it. I'm not sure whether to renounce our complacency or to praise the adaptability of human nature.

In our hopelessness, we turn to the past, to times such as the Black Death or the Influenza pandemic of 1918. We take comfort from the fact that human beings have lived through all this before--and survived! Indeed, it took the Black Death for the Renaissance to happen. You and I are not experiencing anything truly out of the ordinary. Patterns emerge from the chaos.

In music, motifs are short sequences of notes that are repeated and transposed to different scales. These little units have immense power. One example is the opening piece of Bach's Well Tempered Clavier. Using just eight notes, he creates a sense of hope and energy. The listener feels both uplifted and grounded by the piece's simplicity.

But motifs are also found in an entirely different place. In every cell of your body, the symphony of life plays out. Biological motifs or "supersecondary structures" are patterns in how DNA coils. Three examples are " β α β ," " β barrel," and " α turn α ." Like musical notes, repetition is found throughout all life forms. Indeed, the similarities shared across proteins and enzymes have no correlation to the molecule's function. We may never know why such phenomena exist.

Inspiring melodies indicate an intelligent and creative musician. Likewise, I would argue, no mortal life form orchestrated these motifs in our cells. Genetic motifs point to a, drum roll please . . . Higher Being. How else can such incredible biological designs exist in a world enveloped by chaos?

Regardless of the origin, whether divine or "natural," these patterns provide an insight into our true purpose. Great symphonies are not praised because the notes sit comfortably on the page. No, music is written to be played. Similarly, biological motifs are not impressive because they merely exist, but rather because they form awe-inspiring life. Notes must be sounded. DNA must be replicated. Human life must be lived. The presence of motifs is not enough; action must be involved. A quarter note might be held a beat too long, and mutations might occur. Chaos will consume us either way; we might as well make it meaningful.

There is order everywhere, both created by humans and by God. Absorb the entropy of the universe, whether that's through music, art, writing, running, or calculus, and create structure in your life. What causes panic for most, we must seize and organize. I am proud to take part in ordered entropy. The end of the world is not just approaching; the apocalypse has already arrived.