

This work explores entropy—how the Universe expands and contracts. I researched the particles that would influence the end of what we know of as our Universe. As we learn, our minds expand and capture new information to form greater and more complex ideas. This frees us, but also hinders our perceptions. As we acquire new knowledge, we throw out connections that no longer seem to make any sense to us. Even the body is influenced by entropy, as particles constantly wreak havoc on our tissues and fluctuations in our environment take their toll. Entropy, this all-powerful force that gives and takes existence, influences each of these fundamental aspects of our existence.

To visually demonstrate these ideas, I created a book. The book has pages that zip in and out, so that the viewer can change the order of the pages in whatever way pleases them. Instead of creating a specific narrative, I mashed together many different mediums and images to create a disorganized, yet unified piece. I used paper, fabric, paint, urethane, thread, and zippers to give the book a feeling of mutability. The book is a representation of the Universe, and the particles of the cosmos are each page. The particles can enter or move around the system. Each page addresses entropy as a physical or abstract idea.

Permanence and true stasis don't exist. This book invites the viewer to consider the value of meaning within a volatile existence.

Ella









that it isn't a dog. So when you see a cat on the street you say "Oh, look at that cat." instead of "Look at that tiny dog with long hair and whiskers." Our brain does this amazing thing that categorizes what we see, so that we can make quick associations that we use to describe the world around us.

After a while, we know that certain "ideas of things" don't really mix, or belong in certain groups of ideas. Perception\* and categorizations make it so that our minds can never truly be free to think whatever it wants to think, or to make as many connections as it can. As soon as we learn that two things don't go together, we sever the connections between the two objects/ideas and never pursue that path again. We use patterns in order to find what works and

what doesn't work. We can never reach that highest point of entropy unless we were absolutely crazy and willing to throw away these groups of ideas and mesh everything together.

## **THE BODY**

As a child we start off as a very pure being, we have just come from the womb, and we are very impressionable. As our thoughts grow, we become more perceptive, and we get to decide where we go with our opinions. When we grow old our body sags from gravity, we have aches and pains as past reminders of what we've done. It was like that last day of summer, when you broke your foot skateboarding down a hill. When you were 8 and tripped over your dog, skinning your knee. A little scar still remains, a risen, fleshy lump on your knee. You hit a growth spurt and suddenly you feel really small in a very large body. You take up more space and push and prod around the world, hoping to make some sort of mark so that people can remember you. You stir up the air with your words and you secrete little shards of energy, you consume even more. Our bodies create entropy, and we were born from entropy as well.

Many people want to spend more time on this earth than what was given to them. As soon as we are born we oxidize, we feel the weight and pressure of gravity on our bodies. Everything we need to survive is ultimately toxic to us. It is almost as if Nature is telling us that we really weren't meant to last when she gave us life. What is life to us is also slow death. Entropy is a constant threat to our bodies but it is also what keeps us alive. Oxygen normally would like to bond with our essential organic compounds because they give off more energy than  $\text{CO}_2$  and  $\text{H}_2\text{O}$  when oxidized (Lambert, 2013). But, since we would automatically combust, our bodies were created in such a way where this process would not happen. Activation energy is

needed in order to jumpstart these reactions, so our bodies won't combust unless we get over the initial energy hump. The reason that the transfer of energy isn't as erratic as it seems is because the flow of energy is favorable when flowing from concentrated to dispersed. An example of this would be if you were standing in the snow, since the surroundings are colder than your body temperature, the heat/energy from your body would be flowing into the surroundings. If the movement of energy wasn't stable, it would be very hard for life to exist because life itself needs a stable movement of energy.

Ultimately, our bodies want to break apart and disperse. Potential energy plays a big role in how entropy works on our bodies. If we keep oxidation from happening in our bodies, we could live for longer and longer periods of time. There are a lot of factors keeping life around us from releasing all of their energy at once. Trees for example, have a lot of energy, but in order to release all this energy at once there needs to be some sort of energy to activate that process. If you were to light the tree on fire, the tree would go up in flames and release all of the energy it had stored away. Fire has a lot of energy and heat, enough so that the tree could have enough activation energy to combust.

Even though we won't necessarily combust and go up in flames, time is our enemy the oxidation process is slow but sure. When we are young we are like well oiled machines, we work well and we work fast, we are fast energy computing system. As we get older, the elements take their toll and we rust, we have to be fixed every once in awhile. Eventually, we have completely broken down and expended all our energy. We are just husks.

## **CONCLUSION**

As we can see entropy plays so many roles in our lives as a driving force. This qualitative idea is essential to the sciences when describing the movement of energy and particles and how it affects our lives. Even though we will try to escape it and evade the natural forces it is inevitable. Our minds will open and close, we will continue to perceive and categorize. We will never truly be free to be at our highest level of awareness, which means that we would have to become completely connected yet free from everything mentally. Our bodies will age and we will get hurt and healed. The universe will keep expanding, pulling apart matter and dispersing energy until eventually it will reach an inescapable death by heat or contraction. Although we are aware of these things, we should make sure that these ideas don't become our obsession, we should keep them in the back of our minds, but not worry about our ultimate fates. The idea of entropy can be understood, but not controlled. Death is eminent, and there are things to pull us a little farther away from it, but in the end we always reach it. There are checks and balances, making sure that we don't reach the end too quickly, but that we do reach it eventually. We should always find ways to expand our minds, and break free from these barriers in order to become a fully functional, entropic human. We shall keep going, venture into the darkness, make meaning out of it, then go away.

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