CLS101 SPRING 2020 COVID ASSIGNMENTS

Mini – paper prompt:

Using the Kolbert book (*Sixth Extinction*), find THREE specific points of data (quotes) from throughout the book (any chapter/include pg#) that you think could somehow be applied to our current situation. For each, please first *explain* Kolbert's point and the larger context of what she was discussing. Please teach us something from the book that we may not have read ourselves. (**note: you can use the index and search for key words or you can skim through the book to find your three points*).

Then, do a bit of online research. Find an article that connects COVID-19 to the topic of climate change. Put a link to the article in your discussion thread and write a paragraph giving us a synopsis.

Finally, write your own thoughts on the topic as a whole. Pose a question for further discussion, and respond TO AT LEAST THREE of your classmates' posts.

Matthew Abbot: The 6th Extinction Mini-Paper

A common theme or point that was trying to be emphasized throughout the 6th extinction was the fact that humans are largely ignorant. It is a common misconception that ignorant is synonymous with stupid or idiocy, but in reality, means lacking knowledge or education in a certain topic. Humans are incredibly ignorant to the consequences and impacts of their actions on the environment and other species. The concept of extinction wasn't even widely accepted until a Frenchmen named Cuvier in the late 1700's, who specialized in anatomy, studied mysterious bones of creatures that didn't exist until he could prove animals went extinct. "With his lecture on "the species of elephants, both living and fossil" Cuvier had succeeded in establishing extinction as a fact. But his most extravagant assertion – that there had existed a whole lost world, filled with lost species – Remained just that. If there had indeed been such a world, traces of other extinct animals ought to be findable." (Kolbert 33). Kolbert spends a good chunk of the book building up the fact that humans have been ignorant to their impacts on the world and how science is constantly updating and changing. From the idea of animals going extinct to evolution, science evolved and changed its views on the world, and slowly, humans began to better understand their impact on the world.

Coral reefs are a prime example of the devastating impacts humans have on their surroundings. Over the years as of recent, humans have slowly watched the coral reefs die back and go into hibernation. Slowly, these beautiful monuments in the ocean began to turn grey and grow smaller and smaller. This is almost entirely due to the impact humans have on their environment, "The roster of perils includes, but is not limited to: overfishing, which promotes the growth of algae that competes with corals; agricultural run-off, which also encourages algae growth; deforestation, which leads to siltation and reduces water clarity… All of these make corals susceptible to pathogens." (Kolbert 141). Humans may not directly be attacking the reefs, but the indirect consequences of their actions have grave impacts. Deforestation may not be directly targeting the reefs and many people wouldn't expect it to have any effects on the coral reefs, but, it makes them significantly more susceptible to pathogens. This concept of ignorantly impacting the species around us is quite interesting, for every action, there is

an equal and opposite reaction. This concept again comes up in the chapter about the extinction of toads and frogs that's happening right now. Many species of amphibians are going extinct and in mass numbers and not much is known about how or why, except that it can be traced back to "one weedy species" (Kolbert). A mass killer of frogs in south America and up into the United States was determined to be a species of fungi belonging to a group known as chytrids. The fungi, named Bd, moved through the western world and began killing off a massive number of amphibians. "At this point it appears to be, for all intents and purposes, unstoppable" (Kolbert 15). Kolbert goes on to explain that the origins of this fungi are from a toad that's immune to it but was moved to the western species by intercontinental travel. There has never been a species that can travel the world as quickly and efficiently as humans can, and this easy travel has a lot of unintended consequences. When humans travel the world and discover new species or new lands, they bring with them a whole lot of foreign things, such as pathogens and other animals. The western amphibians had never been exposed to Bd, and as a result, had no evolutionary defense mechanism to it. This allowed the fungi to absolutely wipe out the frogs and toads in the area.

This idea of pathogens traveling to new places and absolutely wreaking havoc on plants and animals with no defense is being perfectly demonstrated right now with the COVID-19 pandemic. An article written by the Washington Post describes how the coronavirus is so effective. The virus, first being a respiratory virus, is incredibly easily transmittable, especially in close quarters. It also has a very long incubation period so it can be spread around without the host even knowing they have it. This is a very sneaky tactic that viruses employ and is the main reason that it became a pandemic. People would travel around the world for their work or whatever reason and pick up the virus. These people would have no idea that they had the corona virus in their system and would travel back home or to another part of the world, spreading the virus along the way. Soon the virus had spread all around the world in a matter of months and created a global pandemic. The virus is very easy to stop the spread of physiologically however but plays on the ignorance of humans for being spread around. The virus is very simply a lipid ring surrounding DNA. Due to its physiology, simply washing your hands with soap will destroy the virus and any presence of it on your hands. This is an incredibly effective way to stop the spread of the virus, but humans by nature are ignorant (and often times incredibly stupid). The virus relies on the human's ability to travel all around the world and also relies on the humans ignorance and lack of regard for its surroundings, and that is what has created this almost super virus.

https://www.washingtonpost.com/health/2020/03/23/coronavirus-isnt-alive-thats-why-its-so-hard-kill/

This knowledge gives rise to the question however, given the nature of humans being ignorant and science constantly evolving, is there really anything that can or could have been done to stop the spread of this virus without directly restricting basic human rights?

Anonymous:

Sixth Extinction on the Fragility of Life and the Hubris of Humanity

Perhaps the largest point that Ms. Elizabeth Kolbert was hoping to convey to her audience in her book, "*The Sixth Extinction",* is just how fragile life is and how much control humanity now has over the

lives of all living creatures, including themselves. Nowadays, it feels our very survival is at stake with the disease COVID-19, aka the Coronavirus, has now seemingly sent the human race into a full-blown panic attack. A new virus such as this can easily become immensely catastrophic. “Long-term relationships between pathogens and their hosts are often characterized in military terms; the two are locked in an ‘evolutionary arms race,’ in which, to survive, each must prevent the other from getting too far ahead” (Kolbert 204). Kolbert’s point during this section is to visualize what happens when humanity encounters a new virus/disease. The virus is instantly labeled as something horrific and to be feared, much like how the Coronavirus is being treated. While it is true the virus has no known cure and that elderly people and others with pre-existing medical issues are more at risk than most people, governments and health professionals around the globe have been advising everyone to stay indoors, practice social distancing, and keep up with good hygiene. The whole world is in fear of this disease, which has resulted in mass stock piling of cleaning supplies from the more paranoid among us.

The disease itself has been known to travel via respiratory means, (coughs, sneezes, saliva, etc.) and is in of itself a demonstration of just how much a single person can affect the world, (for better or for worse). The virus’s epicenter is in Wuhan, China and is believed to have started at a seafood/live animal marketplace. The virus was later able to spread worldwide from people traveling to other parts of the word from China. The way this virus has spread is very much like how Svante Pääbo, a massive figure within the world of evolutionary genetics, describes how modern humans unique desire for travel when it was first emerging had a massive effect on other species at the time, such as the Neanderthals.

“It’s only the fully modern humans who start this thing of venturing out on the ocean where you don’t see land. Part of that is technology, of course; you have to have ships to do it. But there is also, I like to think or say, some madness there. You know? How many people must have sailed out and vanished on the Pacific before you found Easter Island? I mean, it’s ridiculous. And why do you do that? Is it for the glory? For immortality? For curiosity? And now we go to Mars. We never stop” (Kolbert 251).

Nowadays, it seems our mostly natural love for travel has now backfired upon us. A strong virus now seeming to hang in the air, waiting to infect us all, like something out of a George A. Romero flick.

But perhaps the most stinging line from Kolbert’s book comes on the second to last page of the final chapter. While she is describing how humanity itself would be affected by a large scale “sixth extinction” event, she gives examples of two types of theories: one of humanity also wiping itself out via its own unintended actions and one stating that we will still survive by our own technological advances. Kolbert summarizes the “we-will-survive” theorists by making claims that we could, (and probably will), scatter “sulfates into the stratosphere to reflect sunlight back out to space” (Kolbert 268) or “simply decamp to other planets” (Kolbert 268). Kolbert’s final message to her audience is that the human race has grown a sort of hubris that we can’t be affected by natural biological means. We could just whip up some cure in a couple months and everything will be fine. The way some people have reacted to the Coronavirus honestly proves just how much people believe that we, as a species are invincible. The virus has indeed caused people, (some of them overdramatically), to realize that we can just as easily take a massive blow from an unknown pathogen.

https://www.politico.com/news/magazine/2020/03/26/what-the-coronavirus-curve-teaches-us-about-climate-change-148318

The article of which I have uncovered is a very recent one, (merely three days ago as of writing this), and it is a description of how both the Coronavirus and global warming both show the power of exponential growth, (specifically targeting carbon emissions in the atmosphere). The article describes how the Coronavirus did not really cause the massive outcry in January and early February that we now currently have, mostly due to the fact that at the time, most people had no experience with what was happening or with any infection. But the pandemic soon burst into a mass amount of infections. "It took 67 days to reach 100,000 coronavirus cases worldwide. The second 100,000 cases took 11 days, and the third 100,000 took only four days" (Kunreuther). The article describes the spread of the virus like lily pads in pond reproducing in one day. You start with one lily pad, the next day there is two. Next day there is four, then eight, and it just keeps doubling every day until the whole pond is covered. It is the same idea with carbon emissions. "The volume of CO2 stood at 315 parts per million (ppm) when first measured in 1958; by the end of February 2020, it had risen by 31 percent to 414 ppm" (Kunreuther).

With the current world climate, this topic of just how much power the human race holds in determining the future of our planet is very alarming. Just a couple weeks ago when we started reading Kolbert's book, we were reading how a large number of amphibians in Latin America were driven to extinction due to human actions that are seen as not dangerous. Now we have a health epidemic that is seemingly growing worse by the day. My question for the class is simple: **Are the people who are stockpiling things like toilet paper and hand sanitizer overracting?**

Works Cited

Kunreuther, Howard, and Paul Slovic. "What the Coronavirus Curve Teaches Us About Climate Change." *POLITICO,* 26 Mar. 2020, https://www.politico.com/news/magazine/2020/03/26/whatthe-coronavirus-curve-teaches-us-about-climate-change-148318

"Myth Busters." *World Health Organization,* World Health Organization, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/mythbusters

"Situation Summary." *Centers for Disease Control and Prevention,* Centers for Disease Control and Prevention, 26 Mar. 2020, https://www.cdc.gov/coronavirus/2019-ncov/casesupdates/summary.html

Emily Crounse

"'I am convinced that… the rapidity of the extinction of so many large Mammalia is actually due to man's agency (229)'". Kolbert was referring to a quote by Charles Darwin where he described the extinction of many species of megafauna to be the result of human intervention. There are a few different scenarios for this extinction. One explanation is the change in their climate and environment. It was thought that the gradual switch from coniferous to deciduous forests and warming climate were the reasons for the extinction of megafauna. Another, more likely scenario according to many scientists though, is the overkill theory. This theory suggests that man overhunted and overkilled species who had lower reproductive abilities like mammoths while species like whitetail deer were able to continue to flourish due to their ability to quickly reproduce. Kolbert continues on to say "With no more large herbivores around to eat away at the forest, fuel built up, which led to more frequent and more intense fires

(232)". A computer simulation created by Alroy confirmed that man could have made megafauna extinct "with minimal effort". I believe this is related to the current state our world is in because our planet is sick and we're the ones making it worse day after day. As Kolbert puts it "Though it might be nice to imagine there once was a time when man lived in harmony with nature, it's not clear that he ever really did." I think we can use past extinctions as an example of what not to do going forward. The outbreak of COVID-19 is truly a tragic situation for many, but it has provided a much-needed break from pollution and the man-made stressors of our ecosystems. Unfortunately, I feel as though if we continue on the way we are, things will only get worse because all of these things are interconnected with each other. Overpopulation, overconsumption, and overexploitation are destroying our earth. If we don't find a happy medium and change our ways, we could face extinction ourselves.

Article: Wild Animals are Exploring Cities During the Coronavirus Lockdowns https://nypost.com/2020/03/23/wild-animals-are-exploring-cities-during-the-coronavirus-lockdowns/

If there are any positives to the COVID-19 pandemic, it's the fact that our sick planet is finally being allowed time to recover. Evidence of this is the effects that Coronavirus is having on our ecosystems, and they're overwhelmingly positive. The water in the canals of Venice, Italy are crystal clear instead of a murky, radioactive blue hue. Troops of monkeys and herds of deer who were driven away by humans now roam the streets in major cities of New Delhi and Japan. Co2 emissions are down by 25% which is a big deal, even if it's for a short amount of time.

Question: Do you think we are capable of changing our ways as a society in order to prolong the life of our planet?

Tanner Lambeth

"When an entirely new pathogen shows up, it's like bringing a gun to a knife fight." Pg. 204

Kolbert's point with this quote is that whenever organisms are introduced to pathogens that they have never encountered it's like going into a fight unprepared for what you are facing. This is very representative of your immune system encountering new pathogens because when immune systems have not previously encountered the pathogens and therefore have not been able to create antibodies to combat the pathogen the immune system struggles to defend the organism against the pathogen. The larger context of this is that when new things are introduced to an environment, whether they be pathogens, organisms, chemicals, or anything else they can have a devastating impact on that environment if the organisms within it are not prepared.

"All of these stresses make corals susceptible to pathogens." Pg. 141

I think the point that Kolbert is trying to make with this statement is that there are many factors that can contribute to why the corals are susceptible to pathogens. Some of the factors given were dynamite fishing, overfishing, agriculture runoff, and competitive algae growth caused by the overfishing and agriculture runoff. I think the overlying context of this was that there are many factors that humans are

causing that could lead to corals dying off before ocean acidity even has a chance to impact the corals, so it is very crucial that these issues also be monitored along with the increasing ocean acidity.

“Long-term relationships between pathogens and their hosts are often characterized in military terms; the two are locked in an “evolutionary arms race,” in which, to survive, each must prevent the other from getting too far ahead.” Pg. 204

With this, I believe Kolbert is making the point that there is a constant battle between pathogens and their hosts that consists of repeated attempts by both to become stronger and outlast the other with the inevitable outcome that one of the two will out compete the other. I think the main point behind this is that pathogens, especially new ones, tend to hold the upper hand when it comes to the evolutionary arms race between host and pathogen. This arms race is one to be strictly monitored so that pathogens cannot spread amongst individuals in a population.

https://www.nytimes.com/2020/03/12/climate/climate-change-coronavirus-lessons.html

This article talks about the dangerous effects of climate change on the environment and how climate change could cause the deaths of many just like the current COVID-19 pandemic. Along with this the article focuses on how as humans we are bad at thinking about tomorrow and how we are evolutionarily wired to worry about the problems of today. Then our lack of worry for tomorrow is tied back into how we are handling the COVID-19 pandemic.

My thoughts on this topic are that the COVID-19 pandemic is helping the environment by limiting the amount of greenhouse gases currently being emitted, but it is also an extremely harmful virus to humans and could potentially cause further problems for the population. However, I believe that the COVID-19 pandemic could give governments the opportunity to transition over towards better sources of energy and better climate policies.

Question: Do you believe that world leaders will take this opportunity to change their global climate policies?