

Biological Diversity

We are constantly surrounded by hundreds, or sometimes thousands, of species of living creatures. God created each organism to be different from the rest. There are estimates that the Earth contains almost eight million species, according to a census taken in the year 2011. Of all those species, humans have identified about one million. There is so much learning we have left to do! It is easy to be accustomed to the routine encounters and experiences with animals and plants near my home, school, or workplace. However, my typical student lifestyle offers little time to stop and appreciate the nature around me. I grew up in a Christian home, and therefore I was constantly reminded that God created everything with special care, and so I should also care for them. What I never paid close attention to was the way in which every creature is necessary to sustain life in an ecosystem. Every food chain is dependent on specific organisms to continue the life cycle. I understand that everything works together, but I never quite realized how vital every living thing is to its environment.

One thing that stands out in learning about biological diversity is that every single organism was created with value and a purpose. It is so easy to be bothered by some of these creations. Insects, especially, often tend to get in the way, and we look at them with contempt. In this sense, we disregard God's hard work and consideration for each of these organisms. These living things should be seen as role models and metaphors for how humans should go about living their lives. God uses them to teach us valuable lessons. Proverbs 6:6-8 says,

“Go to the ant, you sluggard;
consider its ways and be wise!
It has no commander,
no overseer or ruler,

yet it stores its provisions in summer

and gathers its food at harvest.”

Ants are commonly perceived as a nuisance. As tiny creatures, they are easily stepped on or squished. We consider them to be rather insignificant because of their small size; however, God uses these tiny insects as an example for how humans ought to live their lives. Each day, the ant struggles to provide food to be stored away to appreciate at a later time. Likewise, we were created to work hard in order to save up and be able to enjoy the harvest of our work.

What is most evident in the study of these unique organisms is God’s complex creativity. Every living thing is designed specifically for the environment in which it lives, for the food it eats, for the temperature it endures, etc. Psalm 104:27 states that “all creatures look to You,” implying that every living being has complete dependence on God to sustain life. Knowledge of creation is related to wisdom - humans are tasked with learning about these animals, plants, and insects in order to understand how to better care for them. We were given authority over these creatures, and with that comes the responsibility of caring for each one. We can learn to take care of our Earth and its nonhuman inhabitants so as not to cause extinction or endangerment by human doing. God created all of these things for our enjoyment, so we in turn must appreciate what He has given us. One thing that stands out to me is a verse in Matthew 10. It reads, “Are not two sparrows sold for a penny? Yet not one of them will fall to the ground outside your Father’s care.” I recognize that there are an incredible number of bird species in the world, and in each species is hundreds of thousands of individual organisms. God tells us that he cares so deeply for every living thing, and we are his most valuable treasures. His love for each of us is infinitely greater than that of anything in this

world. A line from one of my favorite songs reads, “all creation glorifies Your name” (“Glory” by Phil Wickham). Every being on this Earth was designed to praise our Creator.

Animal Research Ethics

The use of animals as test subjects is a topic of concern in both the scientific world and the ethical world. Many believe that every life deserves to be lived naturally, while others think that scientific advancement takes priority over the longevity of some creatures. Animal research is not a topic that is regularly presented to or discussed among the general public. Many citizens are ignorant to the fact that animals are so commonly used to test everyday products, such as cosmetics. We ignore the subtle warnings that animals are abused for our own gain in knowledge, because we do not want to stop using the things we are so accustomed to using every day. Before discussing this issue in class, I had not considered that my use of certain items may be at the expense of living creatures. Rarely are there advertisements on TV about animal research. The labels on things such as perfume bottles do not want to advertise that they kill for these results, and with good reason! If people knew that animals are dying for our own gain, would they boycott certain products? I would like to think that my answer to that question is a resounding “yes,” but realistically, I am not so sure that it would be such an easy response. On the other hand, animal testing can have potential benefits. Typically when I think of research on animals, it is related to testing of cosmetics, cleaning products, etc. But we also use animals as models for health effects of medicine and other health discoveries. Although living creatures are put in harm’s way to find these results, they can lead to solutions that could help many people over a long period of time.

As controversial a topic as animal research ethics is, I find it surprising that so little is commonly known or debated about its effects. After having discussed this issue in class, the most surprising thing I learned is that upwards of 100 million animals have been used and/or killed as test

subjects. That is an incredibly large number that should make people think about our choices when it comes to the way we treat these living creatures! It is clear to me now that one study using animals to obtain results can lead to findings that then require the use of many more innocent animals. Ignorance is bliss: if understanding what animal research entails means we stop using everyday products, why should we face the facts? I think many people would rather live not knowing how their favorite cosmetics or cleaning supplies were proven safe than face the harsh reality that innocent animals were put in harm's way to discover the results. In some health cases, I can see where animal testing could prove beneficial, because the reactions of many animals is similar to those of humans. That being said, we have a responsibility to not take advantage of animals for our own personal gain. Where do we draw the line for using-and-abusing animals to an outrageous extent? There is no easy answer, and as it is, the best way to handle this controversy is to face the issue case-by-case. I understand why this issue can be so highly debated!

The world will continue to function without the newest cologne scent. I believe that animal testing is wrong if these living creatures are being exposed to cosmetics, or other common household items. If the general population knew what we learned about in class, I would like to think that people would be appalled and would stop using products that support this idea. On the flip side, potential health discoveries could save the lives of many people. My opinions prior to this class discussion remained undecided one way or another, mostly because I knew so little about the topic. After researching this problem, I continue to feel impartial for this reason: there is no straight answer as to whether animal testing is good or bad. There are obvious disadvantages to this type of research, but there are potential benefits as well. Should we simply dismiss the fact that animals are dying to test things we use for our own personal gain? Would people truly stop using certain products to boycott the fact that animals are mistreated to guarantee human safety? Each debate should be determined one case at a time, and we should make decisions that will spare as many lives as possible.

Genetically Modified Organisms

When it comes to the food we eat, labels often instill fear; but are the labels that define our food misleading? Genetically modified food labeling has been and currently is an issue of much controversy. While some believe in the approach that “ignorance is bliss,” others prefer to know exactly what their food is composed of. Prior to the class discussion of GMOs, I had not thought much about the process of making the food I consume. To be completely honest, I did not feel concerned by GMOs. The food I eat is the same food I have been eating for my whole life, and knowing what ingredients make up these foods does not change how they affect me. I am open to the idea of labeling foods produced with GMOs, but up until this point it was not of major concern for me.

Before gaining better knowledge on the subject of genetically modified organisms, I did not realize how many foods are influenced by these changes. Because corn is most often genetically modified, it results in GMOs being the basis for almost everything we eat. There are many positive effects that genetic modification can have on the food we eat. Crops are commonly manipulated to be resistant to pesticides, herbicides, and frost; in this way, these damaging effects do not cause much change in the food that is produced. Crops can also be modified to have a longer shelf life, and although it is not necessarily healthy, many people choose to buy these products because they last a long time. GMOs can have reduced allergens, and some are even able to treat disease, such as the effects of golden rice in the reduction of infant diarrhea. Genetic modification of crops allows for greatly increased production, which means more amounts of food can be produced at lessened costs, both financially and spatially. While the seeds of genetically modified organisms may be more expensive than natural crops, the costs of herbicides, pesticides, and manpower to produce the crops are all decreased. On the other hand, there are significant negative effects of changing our

food for desirable characteristics. The ability to mass-produce crops in a small amount of space reduces the need for manpower, and often puts small farms out of business. We have become increasingly reliant on herbicides, and because of this, our food that we eat needs to be produced in a way that is resistant to the herbicides, so that we do not become sick from what we consume. What is still rather unknown is whether or not GMOs affect the taste of the food produced. GMOs could likely cause new health problems or allergens, and these issues could become increasingly precarious in the near future. In a recent study, rats fed only genetically modified corn faced tumors, and liver and kidney damage. Even though there may be concerns about some aspects of this study, it still poses many questions about the unknown effects of GMOs on the human body. While studies similar to this have not necessarily been performed on humans, we have no way of knowing what the future may bring when it comes to GMOs. Finally, the use of GMOs could restrict our trade access, as not everyone has the same feelings about genetic modification. There are many pros and many cons of using GMOs, and for this reason, the issue of labeling all foods with genetically modified ingredients is highly controversial. This change will likely influence consumer decisions, causing large changes in the food industry.

After learning all of this new information, I recognize that labeling foods produced with GMOs will likely not influence whether I consume it or not. While I may be more aware of the ingredients in the food I eat, I feel that since I have been eating foods produced with GMOs for most of my life, there probably will not be much of a change in my decisions about what I consume. I am still curious as to whether there are currently studies on humans about the effects of GMOs on health. If there are significant health problems correlating to the use of genetically modified organisms, I would likely change my habits to avoid serious health complications. Discussing this issue in class has certainly sparked my interest to research more of the uses and effects of GMOs, and I find myself much more aware of the debates in the news or among other people regarding this controversy in my day-to-day life.