

VISIONS is Elon's student-run sustainability journal. Its mission is to provide an opportunity for students to publish their works that deal with issues in environmental studies. *Visions* publishes a variety of Elon student and alumni works, including research articles, creative writing, poetry, media reviews, photography, and more. All submissions are reviewed by a team of student editors before publication. The ultimate goal of Visions is to raise awareness of environmental issues as well as prompt conversations about sustainability on this campus.

Contributing to VISIONS

Visions seeks compelling and well-written contributions on topics related to the environment or sustainability. Research articles must be grounded in scholarly literature, and creative pieces must be original work. All submissions must advance the goal of the publication.

Submissions for the Spring 2019 volume of *Visions* are being accepted! Please email your piece to visions@elon.edu or go to our web page, through Elon's Office of Sustainability page, for more information about the criteria for submissions and information about our journal.

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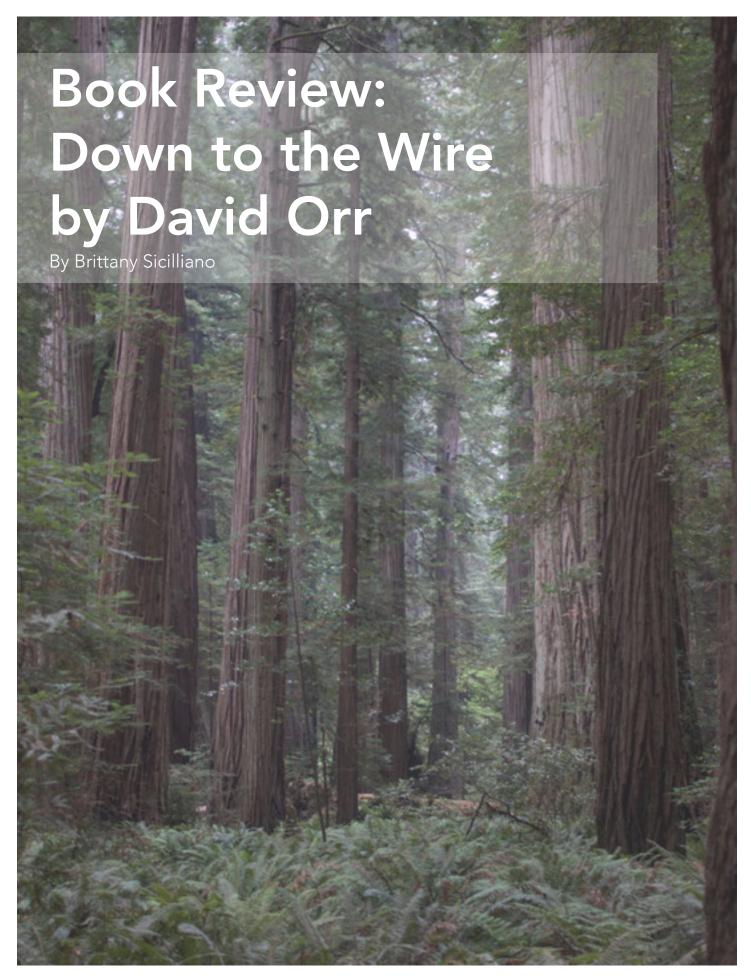
From the Editor

I used to be plagued by this self-fulfilling prophecy. I'm always reading news headlines that characterize our generation as lazy, apathetic, and disengaged. That we millennials can't muster an opinion on the issues that affect us. In my high school, we celebrated "Fight Apathy" day, as if it were a battle already lost. The students were all given a sticker to proudly write and display a cause that they believed in. I always found myself staring at the fresh, unmarked sticker, trying to figure out what I believed in. Do I believe in anything? Maybe they're right...

But coming to college, I've become assured of the value of my opinions. I've found that this notion of apathy simply does not apply to Elon students. The pieces that lie ahead are brought to you by authors who care — really care — about affecting change in this world. They care about the animals that roam this earth. They care about bringing awareness to people of their environmental impact. They care to encourage growth and learning about issues of the environment. They care enough to attempt to put into words the unending beauty of the natural world. Most of all, they care to take action.

The content of this issue serves as a reminder that people of our generation have opinions worth sharing. More than that, they see issues of the environment as worth writing about. I want to thank the authors of this issue for their stories, their research, their big, beautiful opinions. The world is changing because of you. To our readers, thank you for yielding your time to these brave works. We hope we can inspire you to believe in your opinions, too.

Bailey Numbers



In David Orr's 2009 book, Down to the Wire, he outlines how leaders and political institutions must learn from history in order to make a significant impact in the realm of sustainability. Using past examples of leadership, he tells us how to use these examples as a model for modern day politicians to push sustainability into the forefront of the world's issues.

The numbers alone prove that environmentalism can no longer be ignored. Studies show we have the most amount of carbon in our atmosphere now than we have had in the past 650,000 years. Additionally, with deforestation and burning of fossil fuels we have already

caused a 0.8°C increase in the world's temperature, with greenhouse gases still being pumped into the atmosphere, we can expect to see a further increase in the future.

While polls may show that knowledge of climate destabilization is increasing, we have yet to see a significant shift in

our preventative actions as a nation. We are still highly dependent on cheap fossil fuels such as coal and oil. Orr tells us in his introductory chapter that "the enemy is us...but all of us together, properly led, can make a big difference" (p. 7). However, we are still waiting for this leadership to enact major changes. It is going to be imperative that we take the proverbial bull by the horns and start taking steps towards a more sustainable future.

Orr analyzes past examples of successful leadership, starting with figures like Abraham Lincoln and Franklin Roosevelt. During Lincoln's presidency, the issue of slavery was in the forefront of everybody's mind. He established a clear plan for change while

strong example of motivated and effective leadership when handling controversial and complex issues. Orr also cites President Franklin Roosevelt as a role model for leadership. When President Roosevelt took over, he faced challenges of keeping a country together in the face of an economic collapse. Instead of heightening the widespread panic caused by the Great Depression, he worked to inspire and spread hope while keeping the country from economic collapse. Although he did not end the Great Depression, he did restore confidence in the country. Orr argues that these examples of successful leadership and initiative should serve as a model for

contemporary leaders.

Our current administration must not push aside clean energy legislation; we need it to put victory gardens on the White House lawn and solar panels on government buildings. Instead of spending a trillion dollars a year on our military and defense forces, there must be work done to close the gap between the

richest and poorest citizens. If the current administration cannot prove to be the leader we need, perhaps that will be enough for us to stand up and do it ourselves. By taking matters into our own hands, there is hope that the issue of sustainability will not fade away from the forefront of American political discussions. Throughout the book, Orr outlines a number of challenges and priorities that American will have to face in the near future. Whether it is the challenges posed by peak oil or the breakdown of our ecosystems due to anthropogenic causes, these challenges must be faced head on in order to ease the damages

Due to the lack of action from our modern day leaders, Orr suggests that we look to corporations to

that global climate destabilization will inevitably cause.



"We, in America, have the tools

to learn how to survive under

scarce conditions, but we must

teach them to others or we will

fail as a country."

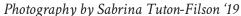
take the lead as agents of change. This idea is especially significant because many experts and environmentalists feel as though corporations are leading the charge in the assault against our planet. America is the home of many big box chains responsible for mass producing waste and filling up landfills. While many businesses have made efforts to implement "green" initiatives, they have yet to commit to entirely sustainable operations. As Professor Carroll, of the University of New Hampshire pointed out during lectures, by definitions, these stores (such as Wal-Mart or McDonald's, etc.) cannot be truly sustainable. Personally, I have a hard time looking towards those who are harming us for help, as Orr suggests. I feel that our current big-box corporations have not proven that they have the capability to successfully lead an initiative towards sustainability in the corporate world.

When discussing the impact of corporations and consumerism on our daily lives, Orr reminds us that advertising has in some ways taken over modern society. Orr demonstrates how many advertisements, even for "green" products, still push the masses to consume. "So we are told to buy hybrid cars, but not asked to walk, bike, or make fewer trips, even at the end of the era of cheap oil. We are asked to buy compact fluorescent light bulbs, but not to turn off our electronic stuff or avoid buying it in the first place. We are admonished to buy green, but seldom asked to buy less or repair what we already have or just do without" (p. 187). After further exploring the topic of sustainability, I have been focusing my attention on consumption reduction. I believe that Americans must not only make efforts to "reduce, reuse, and recycle" but also to "repair and rethink" in order to truly change our ways.

Experts have also proposed that Americans have the capability to survive using fewer resources, but have not taken the initiative to learn how. Jim Merkel, who wrote *Radical Simplicity*, visited a class of mine in graduate school at the University of New Hampshire to

speak to us about living simply. His proposal of simple living included using renewable energy for electricity, using hot water and solar cookers to cook his food, and growing vegetables and grains, as well as other sustainable initiatives. Although it may be difficult to persuade masses to adapt this lifestyle, Americans can still incorporate some of Merkel's habits into their daily living. He also talked about visiting other countries and studying their cultures and lifestyles. While Americans often view untouched land as a resource to be destroyed and exploited, Merkel tells us that the other cultures look at the land as part of their family and communities. We need to adapt the same respect for nature as these cultures do in order to reduce our negative impact.

Down to the Wire is an eye-opening account of how we must change our ways in order to avoid ecological disaster. Although Orr's perspective on modern society may appear grim, he raises very important points. Without this kind of insight, we are doomed to continue on our path of destruction. Reading Orr's other works, articles like "What is Education For?" and his book The Nature of Design, has helped me to form my pedagogy regarding environmental education. He has pushed me to look more in depth into the education system and how it must be fixed. I would like to see a society that has more Waldorf schools, which place a bigger emphasis on environmental education. Overall, Orr's insight has been impactful, and his words should not be taken lightly. To avoid disaster, we must heed Orr's warnings and start making changes in our own daily lives.





The Western Greenway

By Georgia Smith

Outstretched skeletons of trees travel along the endless canopy of sky dappled rays of grey and turquoise, sifted by the sunlight.

The Atlantic visits this edge of the island in glossy pools of blue, straying out into patches of tiny orange flowers, blue and orange and yellow weaving this hidden world of green.

Sheep graze sleepily across the horizon, And hazy breaking light casts them into the backdrop of tumbling mountains a mythic kingdom built for the simplest measures of life.

Now, the sun has done its day's duty and departs shyly, as flat shadows awake from their rests and begin to stretch their bodies across every surface of the earth:





the glowing yellow rocks and lustrous cold ponds, and the unraveling path below my feet.

Now only frail spools of sunlight remain to keep the composition alive.

This land is somehow every land the dry maze of tawny fields and the refrain of lapping water and the timeworn trees and all their descendants.

Every word the earth has ever spoken tells me that this is where I belong, where everyone must belong, yet the land is isolated and empty.

Civilization manifests here only in brittle half-walls of rock and sleepy old bridges, a people's land that the people chose to just let be.

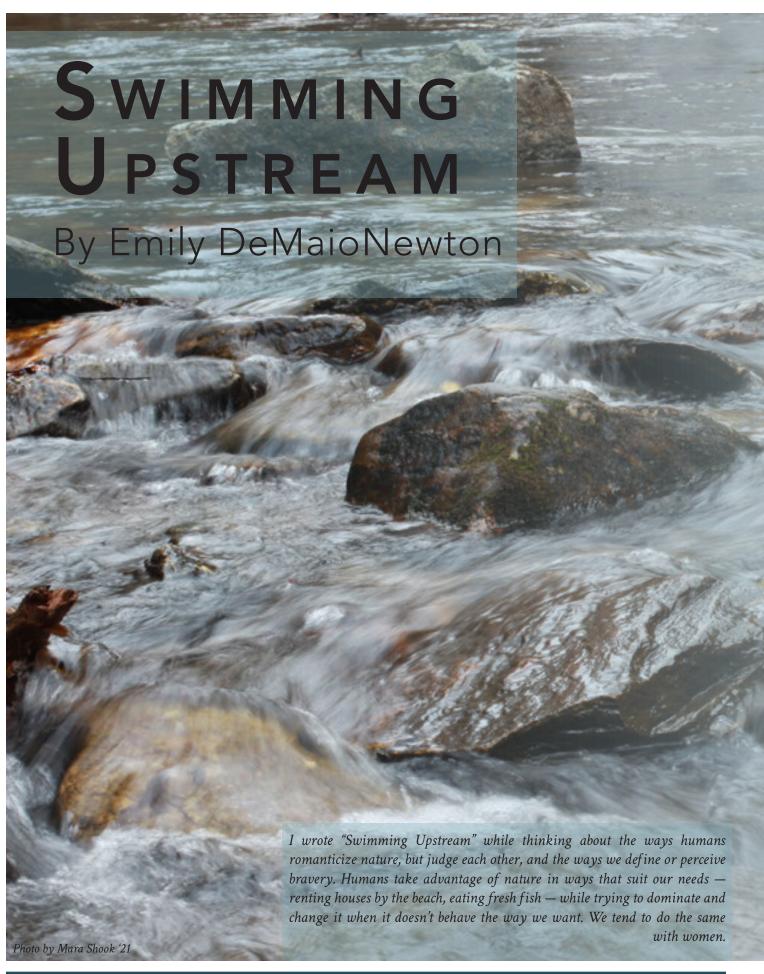








The Western Greenway is a bicycle and walking path that runs along the coast of western Ireland, from the towns of Achill in the north to Westport in the south. I was fortunate enough to visit the coast while studying abroad in Ireland for a semester, and was astounded by both the beauty and the loneliness of the farms, forests, and beaches across the land. I was inspired to write this poem as a reflection on the solitude and grandeur of nature, as well as a reminder of what our earth would look like if it had been left untouched.



When my mother and sister go to the fish market to pick up salmon for dinner, my grandmother sits with me, husking corn at the kitchen table of the cottage we rent by the seaside each summer. I ask her if she's sad that she never married, if she's ever looked across the ocean and wondered if someone on the other side is looking back toward her. She drops husk after husk onto the table and tells me of all the men who came into her body under the pretense of love, only to tear at her voice until she could barely make a sound, and with every word they tried to take a strand of her hair turned silver. I stop husking because each time I reach the center, I find the yellow corn surrounded by tender white strings and I feel like I'm intruding. My grandmother says she started wearing pearls and old-fashioned cardigans because she thought it would stop as she got older, but she says it hasn't stopped. She tells me that in Ancient Greece they believed in soulmates, but they were wrong about the gods, and the only place anyone told her she made them feel whole was her third lover's suicide note. It turned out he didn't kill himself but drove cross-country in search of wine that tasted better than her lips. When my mother and sister return home, they cook the salmon until the vibrant pink pales, and I wonder why we give fish so much credit for swimming upstream to mate when they usually die in the process, but when people looked at my grandmother, with her two daughters and bare fingers, they didn't think of the sacrifices she made to make sure they still felt the river was a safe place to be.



ational parks offer more than just a chance to showcase the natural beauty of North America. They show us what we don't often see: raw, undisturbed, beautiful nature. The federal government protects nearly 53 million acres of national park land, an area larger than most of the United States East Coast. What if all of that land was passed

down to the states instead? What if federal agencies no longer had access to this land and the

ability to protect it?

We are living in a time where preservation of our national parks should be a priority in our government's legislation and in the minds of the public.

National parks support fully functioning, intricate ecosystems with high levels of biodiversity, efficient carbon sequestration and a place for nature rebound from humanity's selfish actions. They offer a glimpse of what United States land looked like before human intervention and development. In addition, these parks give us the opportunity to learn how fragile and delicate our ecosystems are and how impactful our actions can be.

Direct consequences of human intervention on national parks include polluting water, cutting down trees, and disrupting the ecosystem. Indirect actions can be just as devastating: human byproducts, such as personal carbon emissions, accumulate and impact national parks on a larger scale. These indirect consequences are not always visible, but will affect our environment negatively over time.

We need to think about the future of our natural surroundings. National parks give us a rare glimpse of what Earth would look like without human intervention. To try and reverse the damage humans have done, we must reach out to local lawmakers and groups such as Greenpeace, Sierra Club, and Patagonia.

Parks and politics should not be one and the same. Once a state gives land the title "National Park," they are able to use the land in any way they wish. Decentralized power

NATIONAL

PARK

SERVICE

is consistently a part of conservative politicians' platforms. However, when power is put into the hands of lawmakers whose priorities are economic or personal gains,

problems can arise.

For example, states that have politicians with this mindset in office, and have national parks within their border, are able to do the most damage. At the same time. most states are given little to no power if there is no park within their border, thus making these implementations more disproportionate. National parks should be left up to experts, people who care and want to make a positive impact on what the parks mean for the country and the world.

It is ethically wrong to use land for economic opportunities. Although global competition in the economic market is at an all-time high, there will be no future if we only focus on short-term economic gains.

Using these lands for their abundant resources is not sustainable, and will not benefit our economy for more than a few decades. This is where preservation becomes key in moving forward. Our current president wants to be remembered as a man who positively impacted the economy and America's standing in the world, yet this won't matter if we don't think about the future and our ability to preserve our country's natural land.



tried to shoot a deer once, a doe. I was 11 years old, old enough to know I didn't want to shoot an animal, but young enough to think I had to. My dad crouched in front of me with my gun on his shoulder — I was too small to hold the rifle up myself — as I took little gasps of air and looked down the sight. Exhale and pause, then shoot. The mantra had been drilled into me through hours of target practice. The doe was 70 yards out, gently enjoying chewy grass while the mist gave her some cover. The world around us was my favorite kind of gray. She looked peaceful. For a moment, with my finger hesitating on the trigger, it was almost like the world consisted of just the doe and me. Dad said, "Are you sure you want to shoot a doe?" I wasn't. I thought, Please Ryan, just shoot. Just pull the trigger. It'll be so easy. And I swear, I tried to pull that trigger just to prove that I could be big, that I could be a man.

I'm not sure how long Dad crouched in that gravel road waiting for the boom to rattle his eardrums. But, the gun never went off. Finally, red-faced with shame, I managed to choke out, "Dad, I don't think I want to shoot a doe. Can we wait till we see a buck?" Dad's a hunter, but he's kind too. To answer, he stood up, slung the rifle across his broad camouflaged shoulders and whistled. The doe froze with grass stuck to her quivering lips. She looked at us, my figure dwarfed next to Dad's, and galloped off into the mist. My young self thought that being a man meant always being right, never wavering in your decision-making, and always being ready to take charge of a situation at any given time. Not bad qualities, but not qualities that are actually gendered. My desire to be like my father was so important to me that I disregarded the fact that I didn't really know what manhood was. At the age of five, I famously asked my cousin Emma while bathing together one night, "When are you going to grow a penis?" So, it's safe to say my manly expectations were confused from a young age. That could be traced to society's patriarchal mold or my family's more traditionally conservative values, but I think it was a product of both. I felt like I had to abide by some code just to earn something that in reality exists in a much different and more nuanced way than I could see when I was a child. For me back then, to be a man meant I had to shoot a deer. I had to prove myself worthy.

I now know that it's crazy to think it would be better to shoot a buck than a doe. Or, for that matter, that I thought I had to shoot a deer to impress my Dad in the first place. Not pulling the trigger on that gray November morning has stayed with me to this day. That feeling that maybe, just maybe, I was something less than a man because I'd never killed anything. Dad never made me feel like I was less. I felt it. I imagined that when Olivia broke up with me in seventh grade it was because I wasn't manly. Maybe that was the reason I got cut from Varsity soccer freshman year of high school. As years passed, I always felt that I had something to prove. I thought that I had to act a certain way just to be able to compare myself to Dad and other men. Not shooting the doe haunted me even after I thought I had my masculinity figured out college, and had come to terms with myself as a person, not just a man. I carried that chip with me all the way to Oklahoma, ten years after not shooting the doe.

Oklahoma at sunset is orange. Dried clay matched the ruddy orange of the sky as the sun drooped low. Journeying to the hunting ranch in Oklahoma was a birthday present for Dad arranged by my Mom. Mom doesn't hunt, she just likes to be out in nature and was excited to hike around the ranch while my Dad, my brother Andrew, and I were hunting. Dad had always wanted to hunt boar, and it would give us a good chance to be together away from civilization for a couple days in the middle of summer. In the days leading up to the trip, he kept bombarding me with ecological evidence for the culling of hogs. They're "a nuisance, destructive, eat anything in their path, don't stop growing as long as they have a food source, and [the one that resonated most with me] they're invasive. They keep multiplying and growing and push native species to extinction and drive indigenous ecosystems to collapse." Dad knew about my hunting qualms; I think he wanted to prove to me that this kind of hunting was morally defensible, that the culling of boar for the sake of preserving the ecosystems of the indigenous species was right.

My brother Andrew, who at sixteen had already killed two deer and two turkeys, seemed excited for this new challenge and never forgot that though he's the little brother, his "count" is higher than mine. With an hour or so left to go in the carride, Andrew looked at me worriedly and said, "So, are you gonna shoot anything this time?"

"Probably not man, you know I think it's kinda ridiculous to kill things for no reason." I replied. His eyes stopped scouring my face to focus instead on the rolling tumbleweeds out the window. "Yeah, I know. I just thought it might be different cause it's Dad's

birthday." In a weird way Andrew was right. That did make things different. Never before had I gone on a hunting "expedition." The three hunters, Andrew, Dad, and myself, paid a set price for the chance to shoot two boar each over the course of the trip. Before the trip to Oklahoma, in those later years after I stopped going out with Dad at the crack of dawn, I would venture out into the Missouri woods, alone, after being sure to tell Dad and Andrew I was going hunting. I would hike out and leave the gun in the tree-stand or my tent and get purposely lost for a couple hours, maybe days if I had the supplies. I would climb trees or track rabbits. It's nice to see all the little rabbits flock around the big Momma, tender. I always came back emptyhanded on purpose. But that was Missouri, this was Oklahoma. Andrew was excited to shoot a boar, so was Dad. After the monotonous ten-hour drive from St. Louis to Oklahoma, we finally reached the ranch and greeted our guides. Andrew asked again about my shooting preferences. Red-faced with embarrassment, I gave him yet another, "No, I'm not going to." The guides smirked and looked at my Dad. He looked down.

The next day, from my tree-stand situated 20 feet up in the pines, I heard the clatter of boar hooves hustling over the hard-packed, heat-cracked earth for the first time. I'd been sitting up in the tree for three hours at this point, alternating between singing to myself and trying to work through the moral complexities of hunting. The orange sun was getting darker and starting to dip low near the tree-line. I had begun to hope that nature would grant me mercy, no hogs would come my way. Nothing to be nervous about,

you already told everyone you weren't going to shoot anything. But the guttural screeches in the nearby woods forced me to really take notice of the weight of the black gun in my clammy hands. Then, the sounds moved West, over towards where Andrew was similarly hidden up a tree about a half mile down the canyon.

Just when I thought my prayers had been answered, a group of fifteen boar emerged into my clearing and started snuffling away at the loads of corn the guides had dumped. This isn't even real hunting, no skill involved. We're literally sitting in a tree waiting for the hogs to try for the free food. Then we're supposed to shoot while they're too busy feeding to notice the bloodthirsty human sitting in the tree. Without really thinking, I raised the gun to my shoulder. I wonder what it would be like, boar are bad for the environment anyway, they eat everything and destroy crops. They're a nuisance. I thought about Dad, he would've already taken the shot by now if he was in my position, would've had something glorious to smile about around the dinner table tonight. But they're so small, only a little bigger than my yellow lab Cubby. They did say the smaller ones are the most tender. If I don't shoot them, someone else will. Why shouldn't I be the one to pull the trigger?

I looked through my sight, exhaled, paused and placed the crosshairs behind the biggest boar's front leg. Right on the heart. Mechanically, without pausing to consider the repercussions, I twitched my pointer finger towards me. Instantly, the air around me rumbled; the boar scattered. They oinked and grunted and Oh my God the one I shot won't stop spinning around in a demented circle with its face pressed into the ground. It kept

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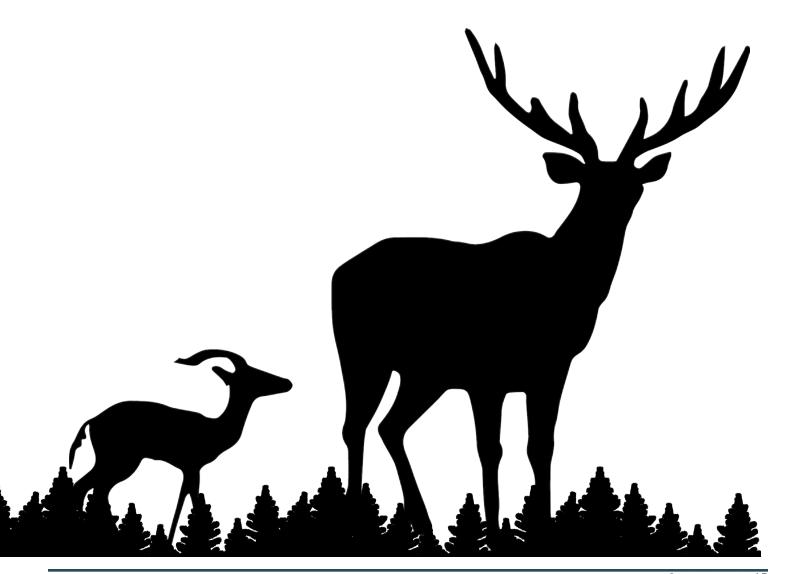


bleeding and bleeding but was still alive so I kept pulling the trigger; I pulled and pulled and pulled until the boar lay still. Part of its snout was missing; my hot tears dripped onto the gun. For one split-second I thought about jumping off the tree-stand but settled for hurling my pack instead. Why? Why Ryan? The tears hurt.

I sat in silence while the tears flowed, the boar's blood pooling in a slow, viscous way. Thank God it had shudderedits last breath and turned away from me; I could no longer see its broken face. A softer snort pierced the silence and with utter horror I watched as a smaller boar made its way into the clearing. It looked at its now dead friend, brother, dad, and started to eat the now maroon corn. Feeling sick, I racked the gun's magazine and with a squeal of fear the little boar raced back into the brush. Leaving me, once again, alone with my conscience.

A sad numbness balled up in my shoulders as I sat and watched the boar while night fell. After some time, lights and the low sounds of people interrupted my silent vigil. Dad, Andrew, and a guide appeared on the four-wheeler, there to pick me up. As the guide heaved the boar into the backseat to take back to the lodge and butcher, he chuckled, "Welp, you really got a hold of this one." Andrew smiled, "Nice shot, Ry." Dad said, "You okay son?" and I nodded, but I wasn't.

I couldn't tell him that I didn't try to take a good shot, didn't care about bringing some gamey meat to the dinner table. I shot the boar attempting to be more of a man and, in doing so, became something less.



Skipping Stones

By Emily DeMaioNewton

The first time his behavior rings alarm is at the lake, one summer afternoon. His first obsessive tendency: skipping stones across the water, little sister following behind—at first excited by these new laws of physics—but he throws harder, faster, kicking up the sand while running down the beach in search of more flat rocks to break the shiny surface time and time again. She begs him to come home, it's getting dark, but he can't hear above the numbers in his head, must get it right, must toss the perfect sequence through the waves, must find some order in the world.



A Call to Vegetarianism: To Save our Planet and our Health





Introduction

We all eat, and what we eat matters. In fact, a large portion of our dinner plate is slowly hurting our health and our planet. Evidence shows that food institutions, specifically the meat industry, are largely contributing to climate change by increasing greenhouse gas emissions and using up valuable resources. Furthermore, meat consumption and the consequences of global warming are taking a large toll on human health. In order to prevent and mitigate further damage, developed countries like the U.S. need to step up and work together to make policy as well as lifestyle changes to reduce meat's harmful mark.

What is Climate Change?

Before one can make any changes, it is important to understand what the problem is. Climate change and global warming are buzzwords thrown around freely these days, but to many, their meaning is unclear. In simple terms, climate change refers to the long-term disturbance of temperature and weather patterns on a global scale. Global warming can be a symptom of climate change due to greenhouse gas emissions with a wide variety of contributing factors. While some people deny the fact that global warming and climate change are real, "there is resounding scientific consensus that global warming is occurring and is largely the result of greenhouse gas emissions from human activity" (Anstey, 2013). Thanks to the atmosphere (composed of water vapor, methane, carbon dioxide and other gases), Earth is insulated like a greenhouse—hence the terms 'greenhouse effect' and 'greenhouse gases'-and the temperature of the planet slowly rises as more sunlight is trapped within the earth's atmosphere. This natural phenomenon is quite beneficial for supporting complex



forms of life. However, it became problematic when humans began producing excess amounts of methane and carbon dioxide, through industrialized machinery and transportation, thus enhancing the greenhouse effect and harmfully increasing the temperature of the planet.

Meat as a Culprit

As mentioned, greenhouse gas emissions from human activities have substantially increased as humans have moved into the industrial age. However, few recognize the large impact that the meat industry has on these levels of emissions. It is important to understand that animal production for food is one of the top contributors to human GHG (greenhouse gas) emissions. In fact, the FAO estimates that "livestock production alone accounts for 18% of world anthropogenic greenhouse gas emissions—a greater contribution than transportation" (Neff, Chan, Smith, & Clegg, 2009). This means that despite the exhaust from cars and buses that most people believe to be the main contributors to global warming, agriculture and meat production are the real culprits that need addressing. This is evident when looked at in terms of "warming potential," expressed as the number of gigatons (billion tons) of carbon dioxide released, which were at a staggering four gigatons in 2010, according to Tilman & Clark (2015). These numbers are due to the complex process of transferring energy required to get meat onto the dinner table as authors Gill and Scott explain, "greenhouse gases are produced at all stages in the system, from farming and its inputs through to food distribution, consumption, and the disposal of waste" (2009). Therefore, in order

to address the issues of global warming and climate change, the meat industry and its substantial GHG emissions must be reevaluated.

Eating up Resources

Another major way the meat industry contributes to environmental decline is by using vast amounts of land and resources to rear livestock and grow the grain required to feed them. To put it into perspective, more than half of the planet's nine million acres of available land is used for the production of food-most of which is utilized in meat production—and therefore cannot be used for other means (Tilman & Clark, 2015). Agriculture could be made more sustainable by putting these land, water, and energy resources into plant production for food going directly to consumers. The energy conversion process of feeding, raising, slaughtering, transporting, and consuming animals is far too costly to the planet's resources, the population's health, and the environment's wellbeing. In fact, "land requirements for meat-protein production are 10 times greater than for plant-protein production," which means that with the same amount of resources, 10 times more plant-based food can be produced than meat products (Leitzmann, 2003). To further this point, Leitzmann also concludes that "about 40% of the world's grain harvest is fed to animals" and that just "half of this grain would be more than enough to feed all hungry people of our planet" at 2003 levels (Leitzmann, 2003). Shifts towards more plant-based and vegetarian diets could substantially decrease future agricultural land demand. In doing so, those resources could be used for plant-based food production, which would preserve the environment, improve health, and



also help alleviate one of the greatest humanitarian concerns—world hunger.

Health Effects

To address the health effects of meat consumption, it is important to define the global dietary transition. This refers to many countries switching to a more Western diet, one that includes higher calorie intake and increased consumption of processed foods and animal products such as meat and dairy. This diet, and animal products specifically, often contains high amounts of saturated fats and cholesterol, which contribute to "increased rates of obesity, diabetes, heart disease, and other diet-related chronic noncommunicable diseases" (Tilman & Clark, 2015). To further matters, according to Gill and Stott, the demand for animal products is only on the rise, especially in transition economies (2009). For this reason, it is pertinent to improve this situation now, by shifting eating habits away from unhealthy meat products and towards sustainable plant-based foods. Because of the health detriments of a meat-rich diet. action needs to be taken at the dietary level in order to make a positive step towards improving global health; which will, in turn, improve environmental health.

Global Responsibility

Developed countries contribute the bulk of humaninduced global warming, yet developing countries are the ones most greatly affected by climate change, despite their lower emissions (Anstey, 2013). Equitable distribution of global responsibility, however, is not currently the global consensus. For example, Pew Research Center results show that 38% of people polled from various nations believe that all countries should decrease their carbon footprint equally (Stokes, Wike, & Carle, 2015). Thus, the Catch-22 of developing countries continues. They are still trying to stimulate the growth of their own country and economy by getting up to speed technologically; however, doing so generates more pollution and GHG emissions. Therefore, in order to allow other countries to evolve and improve their standard of living, developed countries must limit their own emissions by at least 80% (Garnett, 2009). This feat can only by accomplished through effort from the both policy and people.

As discussed, meat production is the largest contributor to greenhouse gas emissions and the U.S. has the highest per capita consumption of meat in the world. In this country, the "average consumption is 122.79 kg per person/year. This can be compared with India, which has the lowest consumption with 3.26 kg" (Nordgren, 2012). However, "the U.S., with the highest per-capita carbon emissions of the nations surveyed, is among the least concerned about climate change and its potential impact" (Stokes, Wike, & Carle, 2015). It is clear that there is a disparity in the contribution to, effects of, and responsibility for mitigating climate change. Nevertheless, climate change is a global issue, so all countries and all people must contribute to its reversal in order to help address the impending disasters of global warming.

U.S. Policy

So far, the United States has not made many steps to mitigate or prevent climate change. A prime example would be the Kyoto agreement: "In December 1997,

the Kyoto protocol was adopted and since then has been ratified by 192 bodies. Under the provisions of the protocol, 37 countries and the EU have committed to reducing greenhouse gas emissions by an average of 5% over the 1990 levels by 2012," yet the United States has not signed this protocol, showing their disregard for mitigation practices that other countries are trying to put forth (Anstey, 2013). It is vital that this problem is globally addressed because it affects all people regardless of borders.

Luckily, many countries have already taken initiative. In the Paris accord conference, there is vast support in 39 countries to limit their emissions (Stokes, Wike, & Carle, 2015). However, the current United States administration no longer supports the Paris Accords at a time when it needs to the most. Consequently, U.S. involvement is much easier said than done because "any international agreement requiring more equitable emission levels would require the West to constrain their energy-intense lifestyle," including consuming less meat (Anstey, 2013). In this case, policy is reflected by the practices of the people; if they want to see change in legislation, constituents must first lead by example. The U.S. holds a lot of power and global influence which needs to be used towards the common good. It is up to countries like the U.S. to be the model for the rest of the world to combat climate change.

Obstacles

To further analyze America's reluctance to act, one must understand the biggest obstacles: limited information, and cost. First, many Americans are misinformed about the extent to which climate change can affect them, and more importantly, how they can alter the course of its adverse effects. It is because of this

that they may not take action or not realize its urgency. The media is largely responsible for this phenomenon, as they present to the public what they deem important and often little else. In some ways, the media grooms the values and thoughts of its audiences. People concentrate on only what they are readily exposed to unless they actively seek out other information. This is evident when it comes to climate change. Environmental topics are rarely covered in news media; therefore, most Americans focus their time and energy on the topics that are discussed more frequently, like crime, and terrorism, both of which they have little control over. Furthermore, studies suggest that people are more apt to pay attention to and be an advocate for issues that they feel are in the hands of the government or big businesses, rather than issues where they themselves feel personally responsible (Neff, Chan, Smith, & Clegg, 2009). This, in itself, is a call to action: We must get informed about the damage we are causing to the planet and our own health, because change requires governmental action as well as individual lifestyle changes.

Another important reason to consider for the lack of American initiative, is the cost of implementing ecofriendly procedures and practices. The U.S. government is reluctant to forfeit the massive amount of money that the meat industry and other heavy-polluting industries produce as well as the jobs they provide. The government is involved in a "policy paradox:" It supports the meat industry and big agribusiness because of the economic benefits, but it is also responsible for the nation's environmental practices and public health sectors, both of which are hindered by these industries. While it is true that in limiting these industries people will lose their jobs, it is important to consider that there



are jobs to be had in sustainable agriculture and other environmentally-friendly businesses as the demand rises. Additionally, the benefits of protecting and preserving the planet outweigh the economic costs that may ensue.

How We Can Help

While the United States is a leader in many innovations, it is certainly not on top when it comes to accepting environmental responsibility. In fact, "66% [of Americans polled] believe people [in the United States] will need to significantly alter their lifestyles" to make a positive change in the environment (Stokes, Wike, & Carle, 2015). Despite the projected population boom and impending meat demand, there are "several major ways to reduce the environmental impacts of agriculture while still providing a fully populated Earth with healthy and nutritious diets" (Tilman & Clark, 2015). Encouraging vegetarianism by taxing foods by the amount of GHG they produce and by distributing more information on both climate change and implementing a more plant based diet can significantly help reduce the effects of the meat industry on the health of our planet.

Accordingly, vegetarianism is no longer just "for the animals"; there is much evidence concluding that eating fewer meat products could significantly reduce the amount of GHG emissions given off by livestock, because "plant-based foods generally have the lowest emissions" (Tilman & Clark, 2015). McMichael et al. propose "that to stabilize livestock-related greenhouse gas emissions, global meat consumption would need to drop to 90 grams/day per person by 2050, based on expected population rises and increasing wealth and meat consumption in developing countries" (Neff,

Chan, Smith, & Clegg, 2009). Recall that the U.S. currently leads with levels of meat consumption at 336.19 grams/day, so that would be a substantial drop.

However, this call to vegetarianism would have immense environmental benefits. To emphasize this, a study was done comparing the environmental and economic impacts of the standard diet versus three alternative diets: Mediterranean, pescetarian, and vegetarian. The Mediterranean diet includes the most meat of the three consisting of mostly white meat, the pescetarian diet consumes only fish and seafood, and the vegetarian diet does not include any meat products. "All three alternative diets could reduce emissions from food production below those of the projected 2050 income-dependent diet, with per capita reductions being 30%, 45%, and 55% for the Mediterranean, pescetarian and vegetarian diets, respectively" (Tilman & Clark, 2014). This shows that limiting meat intake especially to the point of vegetarianism—would greatly benefit the planet. Furthermore, the results of this same study also showed "there would be no net increase in food production emissions if by 2050 the global diet had become the average of the Mediterranean, pescetarian and vegetarian diets" (Tilman & Clark, 2014). This dietary shift towards healthier, more plant-based diets would dramatically improve the climate change standing.

A way to promote this lifestyle would be to tax meat. Researchers have shown that different food crops present varying amounts of greenhouse gases throughout their production and human consumption. Meat products, especially ruminant meats like beef and lamb, are by far the highest contributors. To balance this problem, the Danish Academy of Technical Sciences has recommended that "healthy foods be



subsidized by 20% and unhealthy foods be taxed at 30%" (Gill & Stott). Doing so would encourage the increased consumption of healthier foods (more plant-based), which limits the GHG emissions and has a subsequent benefit of improving global health and nutrition. Notice, however, that the above proposal says "healthy and unhealthy foods" because "prepared items high in sugars, fats or carbohydrates can have low GHG emissions but be less healthy than foods they displace" (Tilman & Clark, 2014). So, it is important to find a balance between cutting emissions with simple plant-based foods while still making healthy choices.

To bridge that gap, there needs to also be better distribution of information to the public, both about climate change and about the diet changes people can make to help reduce the impact. This requires both individual initiative to seek out information to make healthy choices, and institutional action to promote better labeling and demonstrate the benefits of more plant-based diets. Armed with this knowledge and these practices, it is possible to create a safer, healthier planet.

Conclusion

Through this analysis of the intertwined relationship between food systems and climate change, it is evident that the high level of emissions caused by the meat industry contribute to the warming of the planet as well as the ensuing rise in diseases and other health implications like malnutrition. In order to tackle this multifaceted crisis, developed countries have a great responsibility to limit their consumption of environmentally impactful foods. These efforts can be supported by the government, which is responsible for the wellbeing of its citizens and the overall health of its country. It should not, however, be seen as solely their responsibility; the environment should be important to every person living on this planet. We all have a responsibility to make greener, more sustainable choices in what we eat, what we buy, and how we live, and eating fewer meat products would be a great step forward.

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Blue Moon

By Emily DeMaioNewton



The full moon emerged through clouds only to disappear again as I sat in the grass with my dog until he decided he wanted to run, so we ran

down the hill through a field of wildflowers—though not a field of wildflowers as I'd imagined during childhood, reading books

about girls in homemade dresses making daisy chains on sprawling acres of country hills. The field was mostly grass, buttercups

and bluets scattered throughout, visible only as peripheral glimpses of color in the moonlight, and only then if you were paying attention. As we ran,

a sudden pang of relief—the weight that had seemed endless, an inevitable pain I'd gotten used to (or just nearly) dissolved. The moon went behind a cloud

and emerged again. My dog panted in the spring heat. A laugh escaped my throat and echoed in the dark. And really, if I'm honest, the field

was just the edge of a golf course, but they were letting weeds grow there, which was enough.

Maybe There's a Farm in Heaven

By Soula Kosti

the first time he took me with him i was as small as a gardenia

i watched him walk on the dirt road that led to the farm; the place he loved most, the place he felt untroubled

the sun had left its place at the top of the sky, leaving the flowers and the trees whispering goodbyes and preparing for darkness

he walked with a bucket of food in each hand; the animals called on him anticipating their caretaker's return

my little legs followed him around i watched him as he filled my hands with corn to feed the goats he watched me as I chased the chickens

he whistled to gather the sheep and then he came back to me my hand in his as the wind blew on our faces and made our cheeks turn red we took in the view of the grand mountain
we heard the river flowing in the distance
and i thought that
the mountains may fall
and the river may dry
but he would be eternal

he would be there to watch it all and blame ourselves for destroying the beauty that surrounds us

after he's gone
i still visit the place
he loved and loved him so
i imagine his shadow
walking on the green grass
his hand reaching
to gently touch his animals
his voice echoing
in the mountains

but his kingdom is empty now

when the snow was as tall as i was

By Brittany Coppla

letting go of a red balloon meant that someone in heaven or the moon would get it a few minutes later.

when the snow was as tall as i was all the eskimos in antarctica did everything upside down and stars were just pinholes where tomorrow shone through.

when the snow was as tall as i was my cold breath would float up up up to meet other cold breaths, and together they made the clouds where everyone's secrets were safe.

when the snow was as tall as i was
dusk at the ocean meant
the sun was dipping into the sea
to give fish light while we slept,
dawn on the sand meant
the sun was blooming into the sky
to let the mermaids dream.

when the snow was as tall as i was, i didn't notice when it started to melt.



It was nearly nine years ago that my family and I left our home in Massachusetts for a month long stay in the Eastern Ukrainian city of Donetsk. The purpose for this extended visit was to complete the adoption of a ten-year-old girl named Natasha, who had visited our home several times over the past three years on an orphanage exchange program. Natasha would later become my sister.

While my parents had prepared me and my brother for what we would encounter during the process in Ukraine, no lectures, pictures, or explanations could prepare us for the stark reality we would face when first visiting Natasha's orphanage. At ten years old, my only images of these institutions came from movies, and while they weren't exactly portrayed positively in films, the reality of the orphanage was far worse than I expected. The children slept in a room that held dozens of tiny beds all lined in rows. There was no privacy, food was strictly rationed, and there was very little supervision of the children. The building was in disrepair and the orphanage grounds were overgrown with weeds and lacked any usable space to gather for outdoor recreation. Their 'playground' was broken, rusted, and offered no chance for a pleasant childhood. At the end of the day, when school work and chores were completed, the children sat around with little to do and no amenities to use.

The statistics on Ukraine's orphans are grim. There are more than 104,000 children living in the state-run orphanages. Each year, more than 10,000 children become what they call "social" orphans. Social orphans' parents are still alive but unable to care for their children due to alcohol, drug addictions, or child abuse. Twenty-four thousand kids desperately need to be adopted, but are less likely to be because of disabilities they suffer from, or just being older than the age most parents want to adopt. At the age of sixteen, orphans "age out" of the system and are required to leave the orphanage and fend for themselves. Most are unprepared, since they have little education and few skills to find employment. Statistics show that after leaving an orphanage, one in five children will end up in prison and one in seven will commit suicide. The education at the orphanage provided little in the way of life skills, and with no family to fall back on, many teens leaving the state-run orphanages end up on the street and are targets of danger.

When we finally arrived back home, the memories from visiting the country of Ukraine were not the beautiful domed churches or the winding countryside, but of the dismal orphanage, and the reality of children who lived there who were barely provided basic necessities.

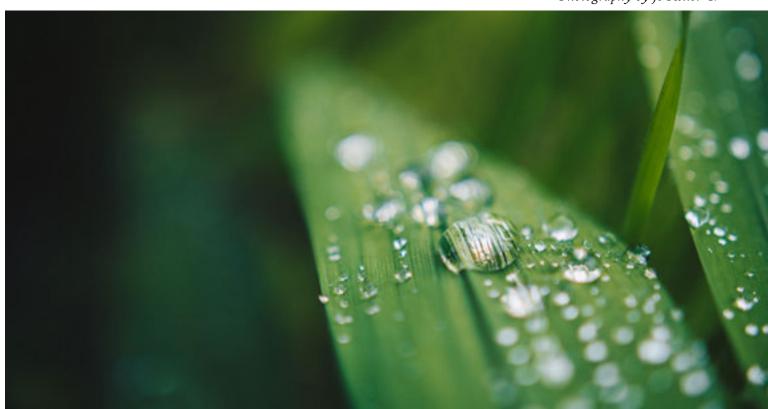
After being home from a trip I was anxious to leave, I found myself wanting to return to make a difference. My parents challenged us to do something for the children in Natasha's orphanage, which led to years of Christmas gift boxes being collected and shipped over as part of a program we called Santa's Shoebox. As I got older, I sought for a plan that could make a more lasting impact. I built a strong relationship with a girl, Luba, who was in an orphanage in Ukraine. She was fourteen at the time, which meant she was a few years away from being on her own. I thought about what would become of her if she was left to fend for herself, and the thought terrified me. I remembered her love of nature and her hard-working mentality when she came to visit. After much thought and research, I started an organization that provides the funds for the construction of greenhouses and gardens.

Santa's Greenhouse refurbishes abandoned greenhouses, constructs new ones, and plants vegetable gardens on the grounds of orphanages in Ukraine, providing several benefits. Ukraine itself is a very industrialized country, that is lacking in parks, produce stands, and other outdoor amenities that can be used for income. Constructing greenhouses on the grounds of orphanages supplies a steady amount of fruits and vegetables to the orphanage where adequate

nutrition is lacking. From this, the children also gain valuable work skills, operating and maintaining the greenhouses and gardens. Receiving little education or training by the time they age out of the orphanage system at sixteen years old, most will live the rest of their lives on the streets. The training done at the greenhouse provides them with marketable skills, and the experience has helped some of these teenagers gain employment at local farms and markets. In addition, the clean up will provide new outdoor areas where the children gather for play. Each orphanage Santa's Greenhouse has assisted reports an increase in the amount of time the children spend outdoors, with the greenhouse or garden being the focal point.

It has been more than eight years since Natasha became an American citizen, and my sister. She is happy and healthy with the benefit of a loving family invested in her well-being, but others from her orphanage are not as fortunate. My story is proof and a reminder that no goal is too hard to reach. If you see a problem you are passionate about making a difference in, doing research and having the idea is the first step to success. It has been my privilege to start Santa's Greenhouse and share my passions of the outdoors, nutrition, and gardening to help improve the lives of orphaned children in Ukraine.

Photography by Jo Keller '19





Elon Garden Studio:Fall and Spring Gardening Courses

By Soula Kosti

Elon University offers two semester-long courses that provide hands-on gardening and food production. ENS 220 is a two credit non-lab course offered in the fall, and ENS 221 is a two credit non-lab course offered in the spring. Students garden in places such as the Elon Community Garden, the Elon greenhouse and the Loy Farm in both classes.

The class projects call for each student to create their own garden, to keep a gardening journal and to participate in the festivals. During the fall semester, the community garden hosts the Pumpkin Festival; in the spring semester, it hosts the Strawberry Festival.

Students take the classes for many reasons. Marin Williams, a junior studying environmental studies, heard positive things about the class before taking it.

She enjoys the way the class is taught and that it gives her the chance to spend a lot of time outside.

"Hands-on learning and experiential learning, in general, are really beneficial and just a great way of mixing up sitting in a classroom, while also being outside and getting your hands dirty and seeing the fruits and the vegetables of your labor," said Williams.

Students grow a variety of herbs and vegetables in their personal gardens, which they get to keep. Through this, students receive in-depth experience on creating and sustaining a community garden, while learning the many health benefits.

Sam Eisenstadt, a junior studying environmental science and currently taking the class, said that through the class he has learned "how to grow [his] own food

and to know what [he is] eating and where it is coming from."

The creation of the community garden was the thesis project of an environmental studies student, which has developed to be a vital part of the Garden Studio courses. These classes are taught by Michael Strickland, who has been with the Elon Community Garden since its creation and calls it one of his "real loves on campus." Over the years, each student has helped the garden continue to expand.

Julia Needham, a senior majoring in environmental ecological science, said, "Strickland is the best professor. He definitely tries to teach us through learning on our own. He gives us the knowledge, but it's really getting out here and putting the work in and seeing what happens."

Strickland has formed strong bonds with many of the students who have taken his courses.

"Some of my closest relationships with students are the ones who work with me in the garden," said Strickland. "Once you are a part of the community garden family, it is almost like you're always a part of it."

Many of his former students visit the garden or contact him around the time of the festivals to check on how everything is going.

"My favorite thing about it, once the garden is in full production mode, is seeing people from the community come over and appreciate it and see the students who've been working in it take pride on it," said Strickland.

Community gardens not only create a more sustainable eco-system and increase the availability of nutritious food, but they also benefit its members on an individual and group level. They strengthen mental and physical health, as well as community ties.

"I really do have a warm spot in my heart for the garden. If anything ever happened to it, I think that would be my cute to leave," Strickland said. "But I'm hoping it's gonna be there long after I'm gone and hand it off to someone who keeps its legacy up for years and years."



Photography by Soula Kosti '18

About the Authors



Brittany Coppla '18

Brittany is from northern New Jersey, and will be graduating this May with an English degree concentrating in Creative Writing and Literature. During her time at Elon, she has been a poetry editor for *Colonnades Literary Magazine*, and has published several poems in *Colonnades*, *Visions*, and *Asterism*. After college, she hopes to pursue her MFA in Creative Writing to ultimately become a professor.



Emily DeMaioNewton '18

Emily DeMaioNewton is a senior English major who enjoys eating sweet potatoes, watching the sunrise, and reading poems that break her heart. Her writing has appeared in *Colonnades*, *Persephone's Daughters*, and the "Modern Love" column of the *New York Times*.



Ryan Keeney '18

Ryan Keeney is a senior, graduating from Elon in May 2018. He is a philosophy major with minors in creative writing and psychology. Ryan loves rock climbing and spending time outdoors. He is an avid reader and writer.



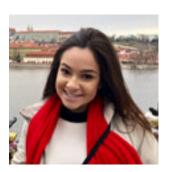
Soula Kosti '18

Soula Kosti is an international student from Greece, graduating in May 2018. She has a journalism major with a minor in professional writing and rhetoric. Soula has a deep love for books and dogs. Her dream is to travel to Australia and hold a koala bear.



Bailey Numbers, '21

Bailey Numbers is the editor-in-chief of this year's *Visions*. She is a first-year student majoring in political science and minoring in professional writing and rhetoric. Her hobbies include running, biking and doing all things outside.



Caroline Saviano '20

Caroline Saviano is a sophomore at Elon University from Wrentham, Massachusetts. She is majoring in strategic communications and minoring in digital art. She loves her Maltese, Teddy, and working for *The Edge*.



Brittany Sicilliano '11

Brittany graduated from Elon in 2011 with a B.S. in environmental studies. She received her MA in Environmental Education from the University of New Hampshire in 2012. She is currently living in New Hampshire, where she works as a Member Engagement Coordinator and is pursuing her love of sustainability in her free time.



Georgia Smith '19

Georgia Smith is a junior majoring in English and minoring in theatre arts and communications. Her poems have been published in *Parallel Ink*, *Canvas Literary Journal*, and *Fifty Haikus*. She loves reading, playing guitar, and her dog Delilah.



Lara Struckman '21

Lara Struckman is majoring in public health and minoring in German and international studies. She is a yoga and kickboxing instructor and hopes to fulfill her passion for making healthy food more accessible, affordable, and sustainable in local communities and eventually around the world.



Andrew Textoris '20

Andrew Textoris is a sophomore majoring in environmental studies and minoring in philosophy and global studies. He developed a passion for nature and environmentalism at a young age. He is interested in sustainability, policy, and international relations regarding environmental problems, and his goal is to one day work for the UN or an international organization advocating for change.

