A Gossip on Sustainability and the Future of Environmentalism
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On the Wednesday morning of November 7th 2018, news outlets, entertainment sites, and eco-blogs were a flurry of excitement and glee--Collins Dictionary had declared "single-use" as the 2018 word of the year. The definition of single-use provided by the Oxford online dictionary is, "Designed to be used once and then disposed of or destroyed."[1] The Collins Dictionary provided a more editorial approach to its definition, stating that single-use items are those"whose unchecked proliferation are blamed for damaging the environment and affecting the food chain."[2] Both definitions are rooted in one major behavior: destruction. Desire, decadence, and disposal work together in a feedback loop of waste.

In 2017, our addiction to single-use products, plastics, and paper were realized. In 2018, a call to action had been initiated for large corporations to step away from their dependence on cheap resources and low manufacturing costs. And, to step up and devote more time and resources toward improving  and restoring the health of the environment. This new campaign of eliminating single-use products was initially met with some resistance, as firms absolved themselves from their responsibility and instead shifted the blame on their consumers. The main sentiment at this time was that companies produced single-use plastics due to the wants of the consumer, and should the consumer no longer wish to use disposables, then companies would respond by creating sustainable alternatives.

The demand for more improved and environmentally conscious products first came in the form of cutlery. At this time, ideas of the new sustainability wave only began percolating, as some individuals thought that they could minimize their carbon footprint by using stainless steel straws and bamboo forks online. According to *Time Magazine,* searches for reusable straws have surged to 205% over the first six months of 2018.[3] The movement against plastic straws grew bigger and louder, by the end of 2018, McDonald's UK, Starbucks and Disney announced that they would ban plastic straws.[4]

While companies and consumers are rewarding one another for their sustainability initiatives, there is much to be desired from both parties. It is true, that the 2018 discussions of sustainability have helped promote environmentally conscious design strategies and consumer spending habits. However, the role of environmental

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[1] "Single-Use | Definition of Single-Use in US English by Oxford Dictionaries." *Oxford Dictionaries | English*, Oxford Dictionaries, en.oxforddictionaries.com/definition/us/single-use.

[2] "Definition of 'Single-Use'." *Take Heed/Pay Heed Definition and Meaning | Collins English Dictionary*, www.collinsdictionary.com/us/dictionary/english/single-use.

[3] Glum, Julia. "Meet the Reusable Straw Sellers Cashing In on the Plastic Backlash | Money." *Time*, Time, 27 July 2018, time.com/money/5347336/reusable-straw-sellers-plastic-bans/.

[4] Burns, Janet. "Disney Announces Plan To Drop Plastic Straws And Stirrers By 2019." *Forbes*, Forbes Magazine, 30 July 2018, www.forbes.com/sites/janetwburns/2018/07/27/disney-announces-plan-to-drop-plastic-straws-and-stirrers-by-2019/#22d3772e1581.

science, resource economics, and the history of environmentalism remain vastly oversimplified in this social dialogue of sustainability. This piece is meant to introduce, critique, and interpret the movements of sustainability and the future of environmentalism.

## Section I: Sustainability and Environmentalism

There is no one person, community, or time period that can be linked to the creation of environmentalism. The earliest known indicators of mankind's relationship to the natural world exists in bones. But, what is known about the earliest forms of environmentalism coincides with the myths and teachings of each civilization spanning the globe. Greek mythology tells of the gods using nature as a force to nurture and destroy man. In Native American lore, the Pawnee belief is that their creator of the earth is present through the earth. Thus, creation, interaction, and protection are performed by both man and his surroundings. Artifacts, writings, and geological patterns show the evolution of mankind's journey through earth.

Environmentalism in the twenty-first century context--that is, the teaching of and protection for environmental science, rights, and action--can be traced back to scientists, authors, and social critics of the early twentieth century. Alice Hamilton was a chemist who spearheaded a campaign against General Motors. Hamilton understood the toxicity of leaded gasoline, and the risks of lead poisoning. She received an onslaught of criticism as she maintained her stance against General Motors and other companies failing to recognize the hazardous materials in their goods. Hamilton, a Cassandrian, knew of the looming dangers of poisonous products and mankind's ignorance, and was determined to let the public know of the risk GM was imposing. Fifty years after her campaign, the government banned leaded gasoline.

There seems to be a pattern following environmentalism. The stages of change are sometimes misaligned. Too frequently, devastation has to occur before permanent policy change is enacted. 1956, the British parliament passed its first Clean Air Act. While this is seven years before the United States passed its first Clean Air Act, this policy was put into place four years after London's killer fog of 1952. It is often thought that time is the enemy of environmentalism, as immediate needs are not addressed, and those temporary positions of power can be the voice of permanent damage.

Environmentalism became increasingly popular in the early 1960's, with Rachel Carson's *Silent Spring*. The information sparked outrage and ignited a fire inside budding environmental activist. By 1971, Greenpeace and other environmental rights groups began to form. Campaigns for the environmental rights became prophetic, exciting, and fantastically chic. [5]

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[5] Weyler, Rex. "A Brief History of Environmentalism." *Greenpeace International*, 2018, www.greenpeace.org/international/story/11658/a-brief-history-of-environmentalism/.

Sustainability has been a relatively recent phenomena within environmentalism. Today, the words "sustainability" and "environmentalism" are used interchangeably. However, this is not correct. In the science community, sustainability has always been the goal of ecology, but it was not the central focus of the discipline. Sustainability was a utopian ideal; whereas environmentalism, which combines environmental science and activism, was focused on present issues. Too often, sustainability presents itself as a solution, when it should be viewed as a motivating force for progress.

**Section II: Sustainability and the Economy**

The consideration and inclusion of environmentally conscious design into commonplace marketing strategy is not new. However, positioning the natural and physical environment as an actor in this process has only recently become a widely recognized business model. In order to remain a competitor, corporations and firms have adopted environmental criteria into their standard modus operandi. The question as to whether or not this rubric is attainable for all businesses remains unanswered.

This is largely due to the difficulty adapting to different socially conscious causes held by consumers. While one consumer may care about a firm providing paid family leave for their employees, paying a liveable minimum wage, or giving generous benefits packages, another consumer may be more interested in a firm's manufacturing practices and resource selection. For new companies, the task of meeting every consumer demand, ranging from environmental to social welfare causes, is a costly and time consuming decision.

This concept of integrating environmental design with traditional business operations is known as enviropenurialism. It is defined as the amalgamation of social performance goals, corporate entrepreneurship orientations, and marketing strategy. Environmentalism is present when marketing policies and environmental concerns are addressed (and included) in the formation of new business policy. This is not to be confused with social investing (now called social impact investing, or simply impact investing), which is described as the act of investing with special interest of social causes. This practice lures in investors and entrepreneurs with the mystique of promoting social change whilst earning large sums of money. Ajay Menon, dean of Colorado State University's College of Agricultural Sciences explains, "demands and influences of the environmental movement are evident in the dollar value size of the environmentally conscious marketplace." The last fifty years of environmentalism has witnessed the perspective of the environment shifting from an external force on the design and managerial process to the preeminent role in decision making.

Despite the previous existence of sustainability thinking, environmental design strategies were not fully embraced in business practices until the early 1970s. While the 1960s witnessed the establishment of the Environmental Defense Fund, and the publication of *Silent Spring,* the consumer population remained largely skeptical of

environmentalism. While regulations were formed in this time period, they were criticized for being too lax, with little instruction, penalty, or federal oversight.

The initial tactic of environmentalists in the 1960s was to use public opinion to pressure firms into adding the environmentalist rubric into their business practices. This was unsuccessful. The 1970s saw a shift in environmentalist tactics, rather than using the public to rally against corporations, they began to organize among themselves and focus their energy on changing environmental policy. This was to create a national standard that all businesses would be held to, regulated by the government, and mandated by the consumer.[6]

Early environmentalism was viewed as a spectator sport for the affluent, as messages tended to antagonize the working class community. Today, individuals continue to vastly underestimate the interest and involvement of minority and lower-class communities.[7][8] It also isolated the firms themselves. The cradle-to-grave approach was more concerned with the output of manufactured and technological goods, rather than their input. This time, environmentalism was criticized for being to stringent on the rules it imposed, as information on what was considered acceptable resources was not provided.

According to Menon, "Environmental concerns have begun to shape the landscape in which global organizations compete." In 1990, Consumer surveys revealed that the portion of consumers interested purchasing from environmentally conscious firms continued to expand. Consequently, the amount of consumers unwilling to support firms without environmental concern grew. Enviropenurial marketing (EM) is considered the voluntary placing of innovation and technology over policy and public scrutiny. Those within this field hold the belief that environmental corrosion is the symptom of economic advancement, technological expansion, and human interaction. And, that innovation is not dependent on policy. Rather, a firm can discover new materials and processes to redesign products, packaging, and technology. This philosophy is, at its core, entrepreneurial in nature. Those who embed it into their pre-existing business models risk the reputation of being exploitative and having unclear representation of marketing strategies, actual environmental practices, and overall social performance. In summary, the methodology behind EM incorporates economic success, environmental awareness, and social performance.[9]

[6] Menon, Ajay, and Anil Menon. "Enviropreneurial Marketing Strategy: The Emergence of Corporate Environmentalism as Market Strategy." *Journal of Marketing* 61, no. 1 (1997): 51-67. doi:10.2307/1252189.

[7] Kelley, Susan. "Cornell Chronicle." *When Opting for Happiness or Income, Many Go for the Cash*, news.cornell.edu/stories/2018/10/most-underestimate-minorities-environmental-concerns-even-minorities.

[8] Pearson, Adam R., et al. "Diverse Segments of the US Public Underestimate the Environmental Concerns of Minority and Low-Income Americans." *PNAS*, National Academy of Sciences, 25 Oct. 2018, www.pnas.org/content/early/2018/10/23/1804698115.

[9] Menon, Ajay, and Anil Menon. "Enviropreneurial Marketing Strategy: The Emergence of Corporate Environmentalism as Market Strategy." *Journal of Marketing* 61, no. 1 (1997): 51-67. doi:10.2307/1252189.

Today, EM firms exist under many names and follow different criteria according to their label. B Corps (Benefit Corporations) are companies routinely assessed by the the non-profit, B Lab. Before giving a firm its certification, B Lab will review community impact, treatment of workers, consumers, and the environment.  In order to maintain the B Corp status, companies subject themselves to random audits, and pay annual certification fees. Fees range based on a company's revenue: larger companies with at least $100 million in sales are ordered to pay $25,000, whereas smaller scale companies must pay $500. In addition to audits and annual fees, companies are required to reconstruct their legal bylaws in order to solidify their social message. Having a B Corp certification will help companies regulate their environmental impact strategy and meet consumer demands.[10]

While B Lab can help companies find balance between transparency and consumer exploitation, and can identify company practices considered to be greenwashing. Greenwashing is the advertising of environmental values without implementing environmental design. According to Frances Bowen, "Greenwashing misleads consumers about companies' environmental performance." It accomplishes this by "combining positive environmental communications with poor environmental performance."[11] This behavior benefits the firm, whilst putting consumers at a disadvantage. Changes introduced through greenwashing are purely symbolic, and are focused on a firm's promotional value rather than consumer welfare.

The act of greenwashing harbors public resentment in corporations they support. In the words of Bowen, "Society is caught in a bind between needing better green information and a distrust of those who provide it." In a time when the threat of climate change is rapidly growing, consumers are at their most powerful and their most vulnerable. It is critical for consumers to know the impact they make with their purchase. Yet, access to relevant information is becoming increasingly hard to find.

Corporate environmentalism presents consumers with choice and action. Firms can provide information to their stakeholders through transparency by incorporating the environmentalist rubric into their design strategy. Should firms become too focused on the message of sustainability rather than its practice, they run the risk of greenwashing their products and services. This can lead to the breakdown of consumer trust in such firms. In order to prevent this from occurring, businesses should take necessary measurements to identify the system they operate in, and its impact on the external forces.

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[10] Akalp, Nellie. "B Corporations: Do They Really Indicate Good Companies?" *Mashable*, Mashable, 8 Dec. 2011, mashable.com/2011/12/08/b-corporations/#f.QjdExTMZqc.

[11] Bowen, Frances. *After Greenwashing: Symbolic Corporate Environmentalism and Society*. Cambridge University Press, 2014.

**Section III: Sustainability and Social Media**

Sustainability has made its presence in public policy, in the private sector, and now, social media. Social media has become a platform of engagement, activism, and advertising. Now more than ever, big brands, small companies, non-profits, NGOs, celebrities, and activists use social media in order to bring awareness to the causes they encourage others to support.

In a conversation with Filipe DeAndrade, National Geographic photographer, documentary filmmaker, and host of his own National Geographic web-series *Untamed with Filipe DeAndrade,* he expressed the challenges he has faced with using social media:

> I used to think that the only way to get people to care about the environment would be to just give them the hard facts. Now, I have to do whatever works. Yes, facts are important, especially when trying to engage the public in a cause that matters to you, but it is also important to keep people's emotions in mind. Trophy hunting was an still is a critical environmental issue, but nobody seemed to care until Cecil the Lion was shot and killed by that dentist. Suddenly, trophy hunting was on the front page of every news publication. It became a cause more people cared about because they felt a direct attachment to Cecil, and a personal disdain for his killer. What I am getting at is, if you have a message that you want everyone to hear, you also need to have a message that people will want to listen to. You have to do what works. And sometimes, that's having a celebrity endorse your message or starting a hashtag.

In Filipe's world, followers are the currency to get networks to notice his work, and for brands, organizations, and investors to sponsor his projects. They are also crucial for collaborations with other creators, as follower count and social media content can be an indicator for a brand's image and reach. A large following can become the difference between a $100 and a $10,000 offer from a brand sponsor. For an individual content creator, artist, or influencer, it can be used as a sign to large companies that they are worthy of an investment. Followers can also be used as a leverage point for posters and brands who wish to support them. Wildlife photographers like DeAndrade, who use instagram as their main platform, face a unique challenge. Their lifestyle is nomadic in nature, as they never stay in one country--read region--for long periods of time. As a result, finding temporary or even semi-permanent lodging that is affordable can be difficult. Without a steady stream of revenue, creators often have to resort to bartering with hotels using their public outreach as a form of payment.  For established creators, this is not an issue, but DeAndrade vividly recalls the challenges he faced when he was early in his photography career, without funds or a following. Social media is witnessing

an incredible cultural shift, in which a platform that was once used for expression of oneself and sharing creations, has now become a competitive race to the top of the social ladder.

Social media is also a way to cultivate a sense of community. Through certain hashtags, users can see other people's work and involvement in their online collective. This is particularly relevant to sustainability and environmental awareness, as more brands and organizations start their own hashtag (or follow others) to identify the interests of their customer base. Greenpeace has two major hashtags that they promote on Instagram, the first one #IsThisYours has just under 5,000 posts, the second #PlanetOrPlastic has 47,000 posts. Posts under each hashtag are varied, several pictures on #IsThisYours feature professionally shot underwater images of swimmers and scuba divers, holding a piece of plastic waste in one hand, and holding an "Is This Yours?" sign in the other. While these images require some special underwater cameras, equipment and planning, other posts feel more spontaneous, such as a person picking up a piece of plastic waste on the side of the road, captioning the photo, "Is This Yours?" Both post varieties are useful to Greenpeace and other followers of the hashtag, as they are able to identify with other users in the community, and see the range of involvement.

Other hashtags are more time specific, which means the frequency of posting under select hashtags will vary depending on the time of year. One example of this is Eco-Fashion Week, a non-profit turned social media campaign. While Eco-Fashion week was less theatrical than New York Fashion Week, the idea of promoting environmentally conscious style and design lit up Instagram. #WhoMadeMyClothes permeated through the fabric of other fashion communities, and traditional fashion hashtags had a sustainable twist. #SustainableFashion now boasts 2 million posts, as #SustainableDesign and #SustainableFashionBlogger edging closely with around 32,000 posts. Once again, quality and style of each photograph vary among each poster, with some photos consisting of highly posed and overfiltered images, and others made up of mirror selfies in nondescript bedrooms.[12] This variation is beneficial to businesses and users of the application, as the scope of representation has expanded.

Hashtags on Instagram and Twitter and community posts on Facebook allow firms to see their audience directly, without the use of data analysis. This is a new and often overlooked advantage. Everyone has become a participant in a larger discussion, presenting themselves as the amalgamation of their ideas,  values and inspiration. Firms are now able to understand how their customers want to be seen. This is allows

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[12] Fernandez, Chantal. "Snapchat, Facebook or Instagram: Who Is Winning the Social Media Shopping Race?" *The Business of Fashion*, The Business of Fashion, 20 Dec. 2016, www.businessoffashion.com/articles/fashion-tech/who-is-winning-the-social-media-shopping-race.

companies to then learn the social and stylistic dialogue of their audience and peers, opening new avenues for communication.[13]

## Section IV: Sustainability and Machine Learning

Industrialization was the incendiary force of climate change. Across the globe, thousands of machine laborers fled to factories each day for work. In the United States, the value of its output on manufacturing goods increased sevenfold. The hourly wage and annual household income grew as well, with the per capita income of Americans rising almost 40% from 1870 to 1910. Industrialization is often credited for the economic prosperity and introduction to widely accessible technologies.

Proponents of industrialization claim that the era was the start to innovation and modern globalization. Countries all over the world were suckling on the bosom of machinery, seeking to nourish the quality of life within their respective homes. In this age, workers were able to step away from the single identity of a laborer, and were seen more as multi-faceted individuals, with a household they take care of, a job they work in, and stores they prefer to shop in. Consumerism experienced a boom in popularity. Consumer engineering was a precursor for what is now marketing and design strategy. Businesses were seeking to make their goods efficient and accessible, with the idea of social improvements would come from *things*. This was possible through machine manufacturing, and what became of machine manufacturing was the establishment of machines in the home. This was the budding stage of technology.[14]

Art in industry, a new unity!
Art and technology, a new unity!
*Slogans of the Bauhaus*

While industrialization catapulted innovation to the centrifugal force of society, the immediate consequences of such a movement soon rose to the surface. One hundred years after the rise of industrialization, the environment is in critical condition. Globalization has lead to the exploitation of impoverished peoples within developing countries.

The world is now in the anthropocene, in which human activity is considered the catalyst for the environment and climate change. Another colloquial term for the current geologic time period is the information revolution. One dominant factor of the information revolution is the fruitful promise of "economic changes almost as great as

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[13] DeMers, Jayson. "The Top 10 Benefits Of Social Media Marketing." *Forbes*, Forbes Magazine, 20 Sept. 2015, www.forbes.com/sites/jaysondemers/2014/08/11/the-top-10-benefits-of-social-media-marketing/#410fbd741f80.

[14] Austin, David, and Molly K. Macauley. "Cutting Through Environmental Issues: Technology as a Double-Edged Sword." *Brookings.edu*, The Brookings Institution, 28 July 2016, www.brookings.edu/articles/cutting-through-environmental-issues-technology-as-a-double-edged-sword/.

those of the industrial revolution itself." These "economic changes" are attributed to technological advancement and the inauguration of data as a tool for education and manipulation. While the internet has provided a new convenience, such as the ability to easily work a corporate 9 to 5 job from home, or shop for groceries without leaving the couch, these new amenities do not directly offset the travel that was previously required to complete these tasks. Instead, new forms of travel and transportation are being invented. What was a daily visit from the mailman six days a week has become a 24/7 delivery service as customers continue to shop for goods online. This not only increases the amount of vehicles on the road; but, it can also contribute to traffic congestion, and $CO_2$ emissions. In the information revolution echoes the philosophy of the industrial age, in which all prosperity comes from innovation. Without the awareness of environmental externalities, this new era of transformation may begin to lead to environmental devastation that has previously gone unnoticed. [15]

One result of the information revolution is the advent of the internet of things (IoT). The internet of things is described as the ability to make any device connect to the internet to improve its functionality. One example of this is the Enevo sensor, which was the brainchild of Frederik Kekalainen at his Finnish startup. The Enevo is a small battery operated device that measures the temperature and volume of waste inside a trash bin. Once the temperature and volume levels reach a certain point, the readings are sent back to the Enevo lab, which signals waste removal companies to collect the trash. The purpose of this device is to improve the waste removal process, which typically involves trash collection once every seven days. Not only is the current process ineffective, but it is costly.

The higher the fuel price for a trash truck, the higher the collection price will be. In addition to this, trash removal is averaged at $30 to $50 for the initial set-up fee, and approximately $10 to $40 for independent removal. While it should be considered that for most developed and urban areas, waste removal is included in the monthly utility bill, the more frequently waste is removed, the more expensive the utility fees and cost of living will be. The current seven day cycle of waste removal is unproductive and unpredictable. One person's amount of garbage may fluctuate based on the time of year. In the summer months, garbage may be minimal, as one is more likely to travel or spend more time outside. During the holiday season, garbage may increase, as piles of gift wrapping and spoiled leftovers find their way to the waste basket. Thus, the timeline for removal does not align with the timeline of waste production.

The Enevo sensor claims to resolve this issue in an inexpensive and environmentally conscious manner. Its purpose is to actually gauge the amount of waste

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[15] Austin, David, and Molly K. Macauley. "Cutting Through Environmental Issues: Technology as a Double-Edged Sword." *Brookings.edu*, The Brookings Institution, 28 July 2016, www.brookings.edu/articles/cutting-through-environmental-issues-technology-as-a-double-edged-sword/.

in a bin at one time. Therefore, waste removal only occurs when necessary. The Enevo sensor is battery operated, and can be repaired without being replaced. This, along with the ability to signal to trash companies when full, earns the recognition for being an environmentally safe alternative toward traditional waste removal and a place in the internet of things.[16]

As designers work to make the internet of things centered on environmental improvements, there are critics who question its perceived effectiveness. The first cause for speculation is its very nature and placement within the world of technology. There is currently a lack of trust among consumers and tech firms due to the planned and perceived obsolescence embedded in today's designs. And, the newfound demand for privacy from tech and data collection companies. Consumers are now increasingly concerned over the methods practiced by firms used to attract them. They no longer want to upgrade their electronics every year, and do not wish to share information with themselves as readily as they may have previously. One primary concern is the staying power and planned effectiveness of devices introduced through the internet of things. Stakeholders are now asking: which devices are considered ineffective? Which of these devices will the IoT improve? How frequently do new devices need to be upgraded or replaced? How often will they be replaced? These questions often go unanswered, as firms continue to advertise the latest product to fit inside the internet of things.

It is these unanswered questions that incur more speculation. The reality is that, older devices will need to be disposed of, and they were not engineered to deteriorate simply. Hard plastics and electronic batteries are infamous for their inability to be disposed of easily. Communities often rely on non-profits to properly handle e-waste, and recycling plants are becoming more significant as the lifecycle of plastic products increases in popularity. In addition to physical waste produced through replacing old items with new IoT products, more energy is demanded from data centers who run the devices. Sure, jobs will be created for workers to monitor the data presented through IoT readers, but the labor regulations in this subset of techn are sparse. There is currently nothing preventing firms from increasing the work day to part-time staff, and hiring unpaid interns to work around providing adequate pay and benefits packages. And, as technology firms and designers continue to create under minimal government restrictions, they are able to make products that are planned to become obsolete. Thus, placing stakeholders at an inherent disadvantage.[17]

As technology and machine learning becomes more prevalent in discussions of sustainability, it is important to consider the externalities that are not included in the

[16] Meyer, David. "Garbage In, Data Out: Enevo Gets Funding for Its Smart Waste Services." Gigaom. April 10, 2013. Accessed December 03, 2018.
https://gigaom.com/2013/04/10/garbage-in-data-out-enevo-gets-funding-for-its-smart-waste-services/.
[17] Finley, Klint. "The Internet of Things Could Drown Our Environment in Gadgets." Wired. June 03, 2017. Accessed December 08, 2018. https://www.wired.com/2014/06/green-iot/.

discussion and design process. The information revolution is unable to distinguish itself from its ancestors of industrialization. As this era provides accessible channels to information and data, the environment's role should become increasingly centered in innovation. The internet of things will continue to expand in addition to the demands of machine learners. In response, the health of the environment will either diminish further, or improve greatly as designers focus on improving the quality of life.

**Section V: Sustainability and Education**

The future of sustainability and environmentalism is largely dependent on the quality of environmental education (EE). This is no easy assessment, as the standardization for a proper critique is difficult to assemble. While environmental awareness appears to be on the upswing and increasing popularity in mainstream discussions, there are still major holdbacks in academia.

Susan Strife of University of Colorado Boulder writes that, as the momentum for environmental rights continues to progress, the current state of education, "still seems to be stuck within the old environmental paradigm."[18] This "paradigm" as Strife recalls, is the notion that the environment is now permanently exhausted of its resources, and it can neither be restored by nor coexist with humanity. Strife and other scientific analysts deduce this to the absence of the human benefits approach within environmental education curricula today.

In the twenty-first century, EE is largely criticized for excluding the practice of humanization; that is, leaving out the direct impact the environment has on humans, and the value of nature. Without this component, learners feel digenaged to protect their natural surroundings. They are presented with the idea that the state of the environment is a consequence for their wrongdoing. This argument is provincial at best, and at its worse, it is a harmful and exclusionary in its construction. Action and education are the foundation for established environmentalist movements, yet this is not reflected in the teachings of environmental science.

Another criticism on the current state of environmental education is its placement in schools. It is still considered "supplementary education" rather than a central part of sustainable development. Strife explains that a successful rubric for environmental education "highlights the ways in which EE benefits humans" focusing on "social dimensions of environmental problems and their solutions." This method promotes human responsibility without minimizing the positive impact of the environment, whilst preventing behaviors that lead to a de-natured public. Environmentalists, scientist, and scholars have argued that rather than construct environmental education as education of the environment--to identify and interpret its systems and behaviors--it should be designed as education *for* the environment.

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[18] Strife, Susan. "Reflecting on Environmental Education: Where Is Our Place in the Green Movement?" *The Journal of Environmental Education*, vol. 41, no. 3, doi:10.1080/00958960903295233.

Education *for* the environment introduces human and environmental needs simultaneously, and takes a critical approach in interpreting how they will be addressed. This approach emphasizes human benefit over the "overused environmental doomsday narrative," which, is often considered too antagonistic of humanity, and can breed isolation and resentment rather than optimism and action.

Apathy is the symptom of poor environmental education, as the goal of environmental education is to engage students through awareness and responsibility. In order to accomplish this, EE has to be contextually relevant to the learner. This means that more emphasis on nature's organic connection to community organization, the economy, and public health. There is evidence of cooperative learning and shared social responsibility among students by using the environment as the foundation of education. This is achieved through cultivating a positive relationship with the environment, and then analyzing how multiple unique relationships will impact the treatment of the environment.[19]

Environmental education should be introduced in academia at the same time as core classes are introduced. The environment affects students at every age level, and therefore, proper exposure early in their academic careers will help learners identify points of participation. According to the North American Association for Environmental Education (NAAEE), the discipline, "focuses on the importance of experiential, interdisciplinary education, [...] and how to create a more diverse, inclusive, and equitable society."[20] Hence, environmental education should be designed to support education for the environment, contain a learner-centered, culturally relevant approach, and address the benefits and reliance of humans and the environment. Finally, education for the environment should be considered an integral part of student learning, rather than a secondary subject or a subset of traditional scientific disciplines.

**Conclusion**

While there is a heavily documented history of the human desire to preserve and care for nature, the blossoming of modern environmentalism occurred in the early 1960s with scholars and scientists taking on the role as activists. Sustainability has been the long held goal of the environmentalists, but only recently has it become the standard and driving force behind new social and environmental causes. While advancements in sustainable design should be applauded and encouraged, the efforts of past environmentalists should not go unrecognized.

Organizations, firms, and individuals should feel liberated to make progress in environmental design, without fearing social persecution. Too often, sustainability becomes synonymous with an unattainable standard that is supposed to satisfy

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[19] Strife, Susan. "Reflecting on Environmental Education: Where Is Our Place in the Green Movement?" *The Journal of Environmental Education*, vol. 41, no. 3, doi:10.1080/00958960903295233.

[20] "About EE and Why It Matters." *NAAEE*, 26 Oct. 2017, naaee.org/about-us/about-ee-and-why-it-matters.

quantitative and qualitative measurement goals. It is these qualitative measurements that firms have the hardest time reaching. This is largely due to the influx of consumer values, and the expectation consumers have on firms to follow in their altruistic pursuit.

There is a vast difference from individual response and behavior, and a collective behavior demonstrated by a larger firm. Individual consumers are able to alter their actions through their daily decisions, whether it is learning from a new information source, or changing their routine, or mixing up their dining habits, consumers are able to see the results of their sustainable decision making faster than a large scale organization. Instead of expecting firms to make progress that can be measured on a person-to-person scale, the public should recognize the different systems and responsibilities that exist within a larger firm. In doing so, this supposed expectation gap will be reduced, and the distinct measures of progress can be made much clearer.

By minimizing the expectation gap for environmental design, firms and organizations are better able to research worthy causes, strategize specific action plans, and reach their development goals within their projected timeline. Brands should have the right to advertise a project that is 20 percent sustainable. In addition, there should be an open invitation to  the public to appreciate and investigate their sustainability practices, and to provide firms with feedback. Transparency at the smallest level can open new avenues toward further development. It allows firms to take bigger risks in the ideation stage, and adapt to evolving criteria. Feedback from the public is crucial toward the progress of a firm and or independent organization, as it gives them direct access to the thought process of the stakeholders, allowing them to assess what is successful, what can be improved, and what is demanded.

To future of sustainability within the disciplines of environmental design, marketing strategy, enviropenuriship, community engagement, and education is going to be dependent on the momentum of present environmentalists. Their action will influence consumers who wish to support sustainable brands, individuals who wish to be involved through social media, and educators who wish to provide a well rounded environmental education to their students. In order to protect and improve sustainability in business, artistic content, and in schools, there has to be an awareness that innovation is a long process.  The environment is a live force, and within it exists systems working together in an angular rhythm, therefore, individuals should not anticipate that innovation is not on the same timeline as immediacy.  The present strides made toward sustainability should not be looked down upon in favor of a desired end goal. In order for sustainability to be improved upon, the foundations of environmentalism--the teaching of and protection for environmental science, rights, and action--must be remembered.

References

"About EE and Why It Matters." *NAAEE*, 26 Oct. 2017, naaee.org/about-us/about-ee-and-why-it-matters.

Akalp, Nellie. "B Corporations: Do They Really Indicate Good Companies?" *Mashable*, Mashable, 8 Dec. 2011, mashable.com/2011/12/08/b-corporations/#f.QjdExTMZqc.

Austin, David, and Molly K. Macauley. "Cutting Through Environmental Issues: Technology as a Double-Edged Sword." *Brookings.edu*, The Brookings Institution, 28 July 2016, www.brookings.edu/articles/cutting-through-environmental-issues-technology-as-a-double-edged-sword/.

Bowen, Frances. *After Greenwashing: Symbolic Corporate Environmentalism and Society*. Cambridge University Press, 2014.

Burns, Janet. "Disney Announces Plan To Drop Plastic Straws And Stirrers By 2019." *Forbes*, Forbes Magazine, 30 July 2018, www.forbes.com/sites/janetwburns/2018/07/27/disney-announces-plan-to-drop-plastic-straws-and-stirrers-by-2019/#22d3772e1581.

"Definition of 'Single-Use'." *Take Heed/Pay Heed Definition and Meaning | Collins English Dictionary*, www.collinsdictionary.com/us/dictionary/english/single-use.

DeMers, Jayson. "The Top 10 Benefits Of Social Media Marketing." *Forbes*, Forbes Magazine, 20 Sept. 2015, www.forbes.com/sites/jaysondemers/2014/08/11/the-top-10-benefits-of-social-media-marketing/#410fbd741f80.

Fernandez, Chantal. "Snapchat, Facebook or Instagram: Who Is Winning the Social Media Shopping Race?" *The Business of Fashion*, The Business of Fashion, 20 Dec. 2016, www.businessoffashion.com/articles/fashion-tech/who-is-winning-the-social-media-shopping-race.

Finley, Klint. "The Internet of Things Could Drown Our Environment in Gadgets." Wired. June 03, 2017. Accessed December 08, 2018. https://www.wired.com/2014/06/green-iot/.

Glum, Julia. "Meet the Reusable Straw Sellers Cashing In on the Plastic Backlash | Money." *Time*, Time, 27 July 2018, time.com/money/5347336/reusable-straw-sellers-plastic-bans/.

Kelley, Susan. "Cornell Chronicle." *When Opting for Happiness or Income, Many Go for the Cash*, news.cornell.edu/stories/2018/10/most-underestimate-minorities-environmental-concerns-even-minorities.

Meyer, David. "Garbage In, Data Out: Enevo Gets Funding for Its Smart Waste Services." Gigaom. April 10, 2013. Accessed December 03, 2018. https://gigaom.com/2013/04/10/garbage-in-data-out-enevo-gets-funding-for-its-smart-waste-services/.

Pearson, Adam R., et al. "Diverse Segments of the US Public Underestimate the Environmental Concerns of Minority and Low-Income Americans." *PNAS*, National Academy of Sciences, 25 Oct. 2018, www.pnas.org/content/early/2018/10/23/1804698115.

"Single-Use | Definition of Single-Use in US English by Oxford Dictionaries." *Oxford Dictionaries | English*, Oxford Dictionaries, en.oxforddictionaries.com/definition/us/single-use.

Strife, Susan. "Reflecting on Environmental Education: Where Is Our Place in the Green Movement?" *The Journal of Environmental Education*, vol. 41, no. 3, doi:10.1080/00958960903295233.

Weyler, Rex. "A Brief History of Environmentalism." *Greenpeace International*, 2018, www.greenpeace.org/international/story/11658/a-brief-history-of-environmentalism/.