

Stepping Sustainably: The Potential Partnership Between Dance and Sustainable Development

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Abstract

Focusing specifically on dance, this study explores the relationship between the arts and sustainable development. Very little academic work has been conducted about artists' role in sustainability, a field that is characterized by intersectionality and cross-disciplinary work. This paper seeks to begin to fill that research gap. It determines two ways that dance artists can interact with sustainability: the operations approach and the artistic approach. Highlighting four organizations — Arts Council England, Kidd Pivot, Eiko & Koma, and Vertigo Dance Company — that have made strides in these two approaches, the study concludes that dance could be a tool for sustainability advocates to better communicate material to non-scientific audiences. Introducing environmental material through dance or other artistic mediums is a way of reframing conversations so that they appeal to broader audiences and target different types of solutions. A true shift toward a sustainably minded society will come from many sources, including a shift in cultural values about consumption and humankind's relationship to the natural world. Art is a driver and creator of culture. If combined effectively, the arts and sustainable development could help to shift our society in a sustainable direction.

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Introduction

At its essence, dance can be defined as movement through space. Accordingly, dance is inherently linked to space and requires an awareness of it. Intriguingly, dance's interaction with space is ephemeral (Beauchesne, 2014). Unlike other art forms that require instruments and canvases, dance leaves no tangible traces. In theory, it is the ultimate sustainable art form as it requires no extra resources besides the human body.

In reality, this is not the case; dance does leave lasting footprints environmentally. Land must be cleared to build large studios with sprung floors, and energy must be consumed to provide stable (and often high) temperatures that keep dancers' bodies uninjured. Theaters require extra space to accommodate audiences as well as immense amounts of electricity to power stage lights and sound systems. Set and costume designs add to dance's resource consumption, as do the vehicles and fossil fuels required for touring.

Theatrical dance as it is practiced in many parts of the world is not environmentally sustainable. Bringing dance into contact with sustainable development could make the practices of dancers and dance companies more ecologically sound. It could also benefit the outreach strategies of sustainability practitioners. Sustainable development struggles with communicating to people outside of its field. Collaborating with dance could be one method to bridge that divide. If utilized correctly, dance could be a means of reframing the sustainability conversation so that it reaches a broader audience and targets more lasting, cultural solutions to environmental issues. However, potential collaborations between sustainability and dance (and the arts in general) have been, until this point, largely unexplored.

Sustainable development is an inherently cross-disciplinary field. It was established with a goal of uniting the "three pillars," combining natural sciences with economics and the social sciences to develop the world in an economically profitable, socially conscious, and environmentally sustainable way. However, in this discussion about the cross-disciplinary nature of sustainable development, the arts are rarely, if ever, mentioned. Thus, ample space exists for discussion and research on the topic of the arts and sustainability. The following pages will explore this gap. While all types of art have the potential for this collaboration, dance seems to be particularly appropriate because of its unique and inherent connection to space. Hopefully, this study will create a foundational conversation about the relationship between the two fields and will encourage further research on the topic.

Background: Environmental Communications

Some geologists assert that the earth has entered a new geologic era called the Anthropocene. This term comes from the Greek roots *anthropo* meaning “man-made” and *cene* meaning “new” (Sachs, 2015). It implies that human actions are altering earth’s physical processes on a scale equal to that of the ice ages, the meteor that killed the dinosaurs, and the advent of living organisms. Consequently, an unprecedented period of Earth history has begun.

Various steps can be taken to decrease humans’ immense environmental footprint. Many sustainability advocates focus on technologic solutions that make our machines more efficient and our energy sources renewable. Others consider directly withdrawing excess greenhouse gases from the atmosphere with carbon capture and sequestration technologies. An economic version of this is carbon offsetting, a growing phenomenon in which people invest money into environmental projects to compensate for their carbon emissions.

However, these mostly technological solutions are not the only answers to sustainability issues nor are they necessarily the most lasting. Much of our current sustainability problem results from our culture. Culture, in this case, is defined as the values, beliefs, practices, and traditions that characterize a group of people and influence the choices and actions those people make. Western culture, which has been seeking to control nature for centuries, now struggles to redefine its relationship to its environment. Solving this cultural problem will only result from many societal changes. Technology will play a role but so will changes in economic structures, political doctrines, educational standards, and cultural values. Achieving changes in all of these areas will be challenging, but not impossible, especially if sustainability thinkers can improve how they communicate with the rest of the world.

Discussing environmental issues is difficult, especially when more complicated concerns like climate change are in question. Environmental communications can be challenging due to the general public’s essential illiteracy regarding basic environmental science facts and theories. For example, a study conducted by the Yale Project on Climate Communications (2009) found that many participants were unclear about the difference between the hole in the ozone layer and climate change, two completely separate phenomena. Furthermore, only 34% of participants agreed that the statement “climate means the average weather conditions in a region” (the definition of “climate”) was “definitely true” (Yale Project, 2009). This lack of basic knowledge on environmental scientific concepts makes it difficult for society to have meaningful discussions about environmental issues.

In addition to this education problem is the reality that environmental threats are often hard to assess. Climate change is a somewhat timeless threat (Marshall, 2014). As climate psychologist George Marshall describes, climate change “can be

here or there, in the present or the future, certain and uncertain” (Marshall, 2014). It does not have a definite day of destruction. Its impacts are dependent on many indeterminable factors, including future population levels and consumption rates as well as positive and negative feedbacks in the climate system and impact location.

In an attempt to combat these difficulties and appeal to the general public, environmentalists often resort to two different rhetorical tactics: 1) overly technical language mixed with complicated statistics or 2) excessively dramatic emotional appeals that are dark, depressing, and not always accurate. Frequently, these two communication strategies are used in tandem. With sea levels rising, biodiversity decreasing, and foundational ecological systems deteriorating, it is easy to turn facts about environmental change into a dystopian tale of sorrow and destruction. Moreover, sensationalized interpretations of statistical results can add flavor to drier discussions about scientific technicalities and complex data, making them more digestible to non-scientific audiences.

These communication strategies are not new to environmentalism. Influential author and marine biologist Rachel Carson chose them for her famous book *Silent Spring* (1962), which explains the harmful effects of the chemical pesticide dichlorodiphenyltrichloroethane (DDT). In the opening chapter, “A Fable for Tomorrow,” Carson paints a picture of a peaceful American town inflicted by an “evil spell” that brings illness and death to all living organisms (Carson, 1962). It is a vivid and disheartening image that seems out of a grim fairy tale rather than scientific non-fiction.

This dark rhetoric draws readers in and guides them into a more technical, fact-based discussion of DDT. Alongside explanations of DDT’s chemical structure and potential impacts, Carson continues her gloomy storytelling, describing an apocalyptic scene of environmental destruction caused by human actions (Killingsworth & Palmer, 2000). She calls chemical pesticides “Elixirs of Death” and speaks about “man’s assaults” on the environment (Carson, 1962). Carson is not incorrect in these explanations. Pollution from toxic chemicals and the possible genocide of insect species would be an assault to life on Earth. However, her dramatic language makes these dangers seem more terrifyingly imminent than they necessarily are.

This fear-based mobilization tactic worked well for Carson. *Silent Spring* sparked public concern about the implications of chemical pesticides and eventually led to the banning of DDT for agricultural purposes in the United States (Griswold, 2012). This success is largely due to the fact that Carson knew her audience and targeted them through her choice of language. As *New York Times* reporter Eliza Griswold explains, “Carson used the era’s hysteria about radiation to snap her readers to attention, drawing a parallel between nuclear fallout and a new, invisible chemical threat of pesticides” (Griswold, 2012). In other words, Carson used the fear and mistrust already brewing in Cold War America to connect her readers to DDT.

Today, many sustainability advocates continue Carson's tradition by evoking apocalyptic messages to inspire action. However, this tactic is no longer as successful. In his documentary, *The Inconvenient Truth* (2006), former Vice President Al Gore used a plethora of well-researched scientific information to explain the distressing dangers of anthropogenic climate change. Yet, over 30% of Americans continue to deny that it exists, and many American lawmakers are enacting policies that pull us further away from a climate-conscious future ("U.S. Concern," 2016).

Today's world is very different than the one in which Rachel Carson lived during the 1960s. We have experienced increased globalization, changes in social and economic structures, and developments in digital and media technologies. Moreover, the environmental movement is not new. Significant amounts of environmental regulations are in place and environmental concerns are a mainstream topic. People have been hearing apocalyptic environmental rhetoric since Carson published her book fifty years ago, but that destructive end has not come. As a result, for many, the reality of environmental wellbeing and the expected timeline of environmental fallout appears uncertain and confusing.

Environmental advocates who choose to continue this dramatic rhetoric often become didactic and irritating. They prescribe the right and wrong way to live and blame the general population for environmental problems that plague us. While effective in small doses, an overabundance of this type of language can be overbearing and off-putting. The human brain has a limited capacity for concern, what some experts call a "finite pool of worry" (Center for Research on Environmental Decisions (CRED), 2009). As a result, there are a limited number of issues that a person can worry about and, usually, one struggles to worry about an issue over an extended period of time. Consequently, an excess of negative or fear-based emotional appeals can invoke "emotional numbing" within an audience (CRED, 2009). When people are repeatedly faced with a threat, fear of that threat eventually lessens.

A similar phenomenon is occurring in some parts of the environmental movement. We have been hearing dark and depressing facts about environmental problems for decades. It is difficult for the human brain to continue processing that worrisome information and even more difficult for the brain to continue worrying about it. Therefore, as a result of the continued fear-based rhetorical choices that many environmentalists make (as well as deficiencies in our education and media systems), the facts and theories that create the foundation of environmental scientific work are being politicized and distorted, making it even more difficult to have productive discussions about many important issues.

One key strategy to combat this communication blockade is to reframe the environmental conversation so that it appeals to both the emotional and analytic processing centers of the human brain (CRED, 2009). Also, by reframing arguments, environmental issues can be molded to appeal to specific audiences and can be

linked to other issues and values that people may care about more deeply. This is exactly what Rachel Carson did in *Silent Spring*. She reframed the problems of DDT so that they were associated with an issue about which her audience was profoundly concerned: national security in the midst of the Cold War. Reusing her specific wording and storytelling strategies will not be as effective in the present because modern audiences are faced with an entirely different set of dangers but continuing her legacy of reframing environmental issues is critical for environmental communicators.

This paper argues that the arts, specifically dance, are useful tools to reframe the environmental conversation. Through dance, sustainability experts could refashion their argument and better communicate their material to general audiences. Academic literature on this topic is limited. Therefore, much of the argument derives from evidence found in primary sources such as reports, websites, articles, and interviews from organizations and individuals working in the intersection of dance and sustainability. Although these sources come from around the world, this study focuses on artists within the western modern dance genre. However, the issues addressed are applicable to any dance style.

There are two ways that a dancer, choreographer, or dance company can become more environmentally sustainable. One, called the operations approach, makes company operations sustainable by implementing energy efficient technologies, waste reduction practices, and other similar measures. The second infuses sustainability principles into art by creating work inspired by environmental themes. Both strategies have the potential to promote sustainability to audiences and raise awareness about environmental issues but do so differently. The operations approach focuses on measurable and tangible solutions that have an immediate impact on the environment. The artistic approach does not have direct quantitative results. Instead, the impact is conceptual and ideological, targeting the emotional, ethical, and cultural value systems that determine how humans interact with the environment around them. Neither of these techniques is necessarily better than the other. Sustainable development is a complex field that involves many elements. Both approaches target different but equally important aspects of those elements.

The Operations Approach

Arts Council England

Arts Council England, England's governmental arts development and funding agency, is a world leader in the operations approach.¹ In 2012, the Arts Council announced that it would embed environmental sustainability requirements into its funding agreements with artistic and cultural programs as part of its ten-year plan ("Growing Environmental," 2012).

This initiative focuses on bringing resilient and sustainable business practices to the organizations that the Arts Council funds in order to make those organizations "more adaptable to all elements of the external world" (Arts Council England (ACE), 2013; "Resilience," n.d.). Copenhagen's "notoriously disappointing climate talks, COP15" of 2009 inspired the Council to incorporate these concepts into its work (Julie's Bicycle, 2015). As explained in the Arts Council's 2015 environmental report, *Sustaining Great Art*, the program "was designed to do what the talks had failed to achieve: to activate and inspire the arts community to make environmental sustainability a major priority" (Julie's Bicycle, 2015). In establishing the Resilience and Sustainability program, Arts Council England became the world's first major arts organization to incorporate environmental stipulations into its work (Julie's Bicycle, 2015).

The Resilience and Sustainability objective combines environmental and economic views equally into the Council's overall mission. Environmental stipulations work in tandem with the plan's economic goals of diversifying artists' monetary support to include "a wider range of contributed or earned sources" such as private funders and supplementary incomes (ACE, 2013). The Arts Council asserts that environmental sustainability increases financial sustainability by ensuring that a company does not run out of resources (ACE, 2013). Additionally, energy efficiency and waste-saving strategies often save money. In the first three years of the Resilience and Sustainability program, over half of the participating organizations saw financial benefits after implementing carbon-saving practices. Between 2013 and 2015, Arts Council-funded organizations saved 12,673 tons of CO₂ equivalent, equaling a financial savings of £2.29 million (Julie's Bicycle, 2015).

Moreover, implementing environmental sustainability standards could help arts organizations find new sources of income. Widening the scope of an arts organization's business plan beyond art diversifies the organization's business model. A broadened financial base could make an artist or arts company more appealing to a wider array of supporters who may be interested in environmental causes, but not artistic ones. Unfortunately, specific examples of this phenomenon in Arts Council funded organizations are difficult to locate. However, according to the Council, 70% of participating organizations found that having environmental policies as part of their business model was "useful when applying for funding," and that 69% of

¹ The author has previously written about this subject in *Resilience and Sustainability: An Ethical Assessment of Environmentalism at Arts Council England* (2016), an unpublished work written for the course Ethics of Sustainable Development taught by Adela Gondek at Columbia University.

organizations found these policies helped them “engage with stakeholders” (Julie’s Bicycle, 2015).

To support the environmental element of the Resilience and Sustainability initiative, the Arts Council teams up with Julie’s Bicycle, a global charity that specializes in artistic environmental sustainability. The goal of this collaboration is to 1) track the energy and water use impacts of the arts community, and 2) inspire other artists to make their creative practices more environmentally friendly.

To achieve these goals, Julie’s Bicycle provides technical training and tools that help arts organizations develop an understanding of their environmental footprint (Julie’s Bicycle, 2015). Arts Council-funded organizations are required to report information about their energy and water usages using Creative Industry Green carbon calculators, a free environmental impact tool that collects and analyzes a company’s carbon footprint. These calculators can adapt to different arts sectors and measure five areas: energy, water, waste, transportation, and materials (“Creative IG Tools,” n.d.). This analysis provides arts organizations with data about their carbon footprint from energy, water, waste, and transport as well as information about energy mix, emission levels, water consumption, and waste generation. With this information, Julie’s Bicycle helps organizations make their operations more sustainable and sets benchmark indicators that allow them to compare their carbon output with others. Julie’s Bicycle also organizes events, networks, and seminars for people interested in sustainable art practices (Julie’s Bicycle, 2015).

Through their joint program, Arts Council England and Julie’s Bicycle have made strides in improving the sustainability of British arts and culture. Between 2013 and 2015, the number of groups incorporating sustainability measures into their creative practices rose from 14% of Arts Council-supported organizations to 98%. Today, 80% of the over 700 participating organizations not only follow environmental standards, but also consider themselves to be “engaged or very engaged with environmental sustainability” (Julie’s Bicycle, 2015). Between 2012 and 2015, 51% of member organizations saw financial improvements as the result of sustainability measures, 67% saw morale improvements, and 43% saw reputation enhancements. Most significantly, the Arts Council’s environmental measures have “reinforced a sustainability movement in culture with far-reaching potential” (Julie’s Bicycle, 2015). Because of these successes, Arts Council England plans to continue its Resilience and Sustainability initiative, furthering its reach and instilling an environmental mindset in England’s arts and culture sector.

While these statistics seem promising, the specifics of the program are unclear. It is difficult to find exact energy or waste standards that organizations are expected to meet. Instead, it appears that organizations report their consumption statistics to Julie’s Bicycle, but any action afterward is dependent on the company’s willingness to continue the collaboration. Moreover, it is difficult to

pinpoint exactly what actions organizations took to improve their sustainability. It seems like most successes were achieved through small-scale efforts to improve the efficiency of buildings. This includes installing efficient lighting and water systems; improving insulation and heat infrastructure; reusing or recycling office supplies, building materials, sets, or costumes; and simply consuming less energy (i.e., turning off the lights more often). Some groups incorporated these ideas into their tours. The most extreme example is the Shakespeare theater company, HandleBards (Figure 1), which toured Europe on bikes in its 2013-2014 season (Julie's Bicycle, 2015).

Figure 1: The Handlebards and the bicycles they use during tours.



Source: Handlebards, n.d.

Kidd Pivot

One dance company that takes an operations approach to the dance-sustainability partnership is Kidd Pivot, a Vancouver, Canada-based contemporary dance company under the direction of world-renowned choreographer Crystal Pite. Kidd Pivot's sustainability efforts were initiated by the company's rehearsal director, Eric Beauchesne. An active outdoorsman since childhood, Beauchesne quickly noticed the environmental impact of Kidd Pivot's touring practices. In a "lightning talk" given at Velocity's Seattle Festival of Dance Improvisation in 2014, Beauchesne explains how he had an epiphany during a tour in which he traveled from Canada to Tokyo on a Monday and returned that Friday, "spending literally as much time in the air as on the ground." He did this to give a single performance of a 13-minute duet. According to Beauchesne's calculations, the trip emitted seven tons of CO₂, more than double the CO₂ emitted annually by a person living in a developing country (Beauchesne, 2014).

My Tokyo epiphany was so strong that for a while I considered quitting my dream job in order to stop extensively pouring CO₂ in the atmosphere. I was rejecting more and more that the art form I had fallen in love with at 18 was creating dramatic and lasting effects... I thought: "This is going exactly against the very nature of dance, which is to be ephemeral" (Beauchesne, 2014).

Instead of leaving his dance career, Beauchesne decided to find a solution to his carbon emission problem. He determined that the main culprit of Kidd Pivot's environmental footprint was touring. When the company tours, ten to fifteen people travel across the globe in a staggered and geographically inefficient schedule. For example, Kidd Pivot began its 2017 tour flying from its home in Vancouver to Australia (E. Beauchesne, personal communication, 20 October 2016; "Touring Past," n.d.). Then, the company flew to the United States and traveled there for three weeks. After this, all company members traveled to their homes in various parts of Canada and the United States for a one-week break before moving on to Europe, where they visited Serbia, England, Spain, and France. One month later, the company returned to Europe to perform in Amsterdam before hopping back across the Atlantic for a show in North Carolina.

This helter-skelter style of travel has major environmental impacts. Worldwide, airplanes account for 2-3% of CO₂ emissions (Federal Aviation Administration, 2015; International Civil Aviation Organization, 2010). The contrails and cirrus clouds that airplanes emit have a warming effect eight times greater than CO₂ (Borken-Kleefeld, Berntsen, & Fuglestvedt, 2010). At shorter time frames, the per passenger per hour impacts of air travel are 6-47 times higher than car travel (Borken-Kleefeld *et al.*, 2010).

Flying as Kidd Pivot does only worsens these effects. In 2011, each member of Kidd Pivot emitted about 26 tons of CO₂ from touring and transporting sets alone (Beauchesne, 2014). This number does not include dancers' personal emissions. According to the International Energy Agency, that same year average total CO₂ emissions per capita in the United States were 17 tons (Beauchesne, 2014). Therefore, the carbon footprint of Kidd Pivot dancers solely from touring-related transportation was 65% higher than the *total* carbon footprint of the average American.

In order to combat these challenges, Beauchesne decided to offset Kidd Pivot's touring-related carbon emissions. After extensive research, Beauchesne chose to work with the Canada-based carbon offsetting company Offsetters (Beauchesne, p.c., 2016). Offsetters developed a portfolio of projects that is priced at \$25 per ton of CO₂ removed from the atmosphere (Beauchesne, p.c., 2016). This portfolio includes three projects. The Great Bear Forest Project protects a forest in British Columbia, Kidd Pivot's home ("Great Bear", n.d.). Lower Zambezi REDD+ aids

conservation efforts of a wildlife corridor between Zambia’s capital, Lusaka, and the Lower Zambezi National Park (“Lower Zambezi, n.d.). Kidd Pivot’s third project funds the dissemination of fuel-efficient wood burning stoves in Uganda to replace the charcoal stoves used by many Ugandans (“Uganda Efficient”, n.d.).

The first phase of the Kidd Pivot-Offsetters relationship began in 2014 during a tour of Pite’s piece *The Tempest Replica* (Figure 2). During this phase, Offsetters sponsored Kidd Pivot (“Kidd Pivot Will Travel,” 2014). This means that Offsetters offset the greenhouse gas emissions Kidd Pivot generated from touring in exchange for Offsetting visibility in Kidd Pivot’s programs and website (Beauchesne, p.c., 2016). The sponsorship allowed Kidd Pivot to travel carbon neutral that year by offsetting 206 tons of carbon (Beauchesne, p.c., 2016).

Figure 2: Kidd Pivot performing *The Tempest Replica* by Crystal Pite.



Source: Photo by Jörg Baumann. *The Tempest Replica*. *Kidd Pivot*. Retrieved from <http://www.kiddpivot.org/works/tempest-replica/>

After 2014, Offsetters stopped sponsoring Kidd Pivot, initiating the second phase of Kidd Pivot’s carbon offsetting program (Beauchesne, p.c., 2016). In 2015, Beauchesne started “1 Day for the Climate,” a company-collaborator voluntary partnership that dedicates one day of work per year to climate protection (E. Beauchesne, personal communication, 10 October 2017). Collaborators joining this initiative commit to donating one paycheck per year, an amount that Kidd Pivot matches and then directs toward climate protection projects chosen by its members. Through the 1 Day for the Climate program, Kidd Pivot aims to support projects that “directly, effectively, and rigorously offset carbon emissions, support climate justice, or raise awareness on climate change issues” (Beauchesne, p.c., 2017). This initiative has allowed Kidd Pivot to continue touring carbon neutral since 2014, offsetting over 400 tons of carbon dioxide equivalent and donating over \$1000 to

environmental organizations that are fighting climate change (Beauchesne, p.c., 2017; “1 for the Climate”, n.d.).

For Beauchesne, “it was very important that [1 Day for the Climate] should be voluntary” (Beauchesne, p.c., 2016). He did not want to “twist arms” or shame dancers into taking part. Still, in retrospect, Beauchesne is glad that Offsetter’s original sponsorship turned into this new, client-based partnership. “It forces us to be more involved,” he asserts (Beauchesne, p.c., 2016). Because of 1 Day for the Climate, Kidd Pivot members are personally invested in the carbon offsetting process by choosing and partially funding projects that the company supports. Consequently, they are thinking about their environmental footprint and are more involved in fixing it.

However, carbon offsetting is not a perfect system. Even the most responsible carbon offsetter risks donating to scamming organizations. Moreover, many critics of carbon offsetting believe that it is merely a “license to pollute” and an excuse to continue an unsustainable lifestyle (Palmer, 2016). One critic compared the sale of carbon offsets to the sale of indulgences by the Catholic Church during the 15th and 16th centuries, which traded money for an absolution of sin (Monbiot, 2006). Such a comparison implies that carbon offsets are ineffective at altering human behavior, just as indulgences did little to deter sin. If people can pay their way out of sin, what stops them from committing it? Similarly, if people can pay away their carbon footprint, what will push them to alter their overly consumptive and polluting habits? These habits, enforced by a culture of heavy consumerism, are one of the main causes of current environmental problems. To many, carbon offsets seem like a cop-out, keeping us from solving a more complicated issue.

Beauchesne understands these complaints and agrees that carbon offsets are not the perfect solution (Beauchesne, p.c., 2016). Offsetting is only a small piece of the climate solutions puzzle, but Beauchesne believes that it is beneficial in the long run, if only symbolically. Calculating carbon footprints and researching offsetting possibilities forces people to have a conversation about their environmental impact. Without the conversation, we will never reach the ultimate solution. Excitingly, 1 Day for the Climate has done exactly this. After three years of the program, Beauchesne reports that 1 Day for the Climate has sparked discussions within Kidd Pivot as well as with agents, presenters, and funders about environmental sustainability (Beauchesne, p.c., 2017).

Kidd Pivot is not the only company that struggles with unsustainable travel routines. Touring is an essential part of any large dance company’s livelihood. It is how a company makes money and shows its work to larger audiences. Unlike film or paintings, it is hard to transport dance. Dancers cannot send a digital file or a canvas to a museum or presenter. Instead, an entire company along with any necessary sets or costumes must travel. In a perfect world, dance companies could decrease their environmental impact by flying less and having longer home seasons. When

traveling, they could organize more logical schedules so that they remain in one region for a longer period instead of hopping between continents every few weeks.

In reality, this type of schedule is difficult to organize. Agents and presenters, rarely the company, determine touring schedules. Companies tour to a theater when the theater is available, not when the company happens to be nearby. Beauchesne believes that there is a solution to this touring problem, but at the moment it is difficult to consider (Beauchesne, p.c., 2016).

Discussion

Arts Council England and Kidd Pivot focus on the operations-side potential for dance to interact with sustainable development. While both of these companies have achieved notable successes, they do have room for improvement.

On the whole, the Arts Council's Resilience and Sustainability program is an "empowering statement" on the role of the arts and cultural sector in societal development, implying,

that regardless of a lack of political will to respond meaningfully to climate change and environmental degradation, the arts and culture are setting their own ethical and practical standards for environmental management, through voluntary compliance that's placing sustainability at the heart of their business models ("Growing Environmental", 2012).

However, the program is young and imperfect. Some question its emphasis on private sector funding, wondering if increased commercialization will harm artistic quality (Gardner, 2016). Maintaining the integrity of art is absolutely necessary to any artistic sustainability endeavor. Without innovative or legitimate art, the impact of the sustainability initiative will be much less powerful. Considering the implications of a sustainability initiative on the quality of the art being presented is vital when assessing the potential for art-sustainability collaborations.

Another drawback of the Arts Council's program is that it focuses almost entirely on energy consumption. It utilizes some information about water and waste, but does so through the lens of carbon footprints. While decreasing carbon emissions is crucial to sustainable development, it is not the only aspect of the field. A similar criticism could be made of Kidd Pivot's carbon offsetting program. Kidd Pivot only assesses its carbon footprint from air transportation, not taking into account carbon emissions produced by the food dancers eat, the costumes they wear, or the electricity they use to power studios and theaters. Beauchesne is aware of these limitations and hopes to expand the initiative in the future. Specifically, he would like to better organize food consumption during tours to include restaurants and food sellers that provide sustainably grown and prepared foods (Beauchesne, p.c., 2016). As these programs develop and the dance world becomes more involved

in sustainability, it would be beneficial for organizations to follow Beauchesne's lead and consider a wider array of environmental concerns beyond energy consumption.

This raises questions about administrative and financial burdens of sustainability initiatives. Arts organizations like Kidd Pivot do not generally have extra money to pay sustainability managers. Groups like Julie's Bicycle and Offsetters do basic sustainability management for a low price, but if a company wants to expand its environmental program, much of the burden falls on the its own members. Beauchesne does the work of arranging Kidd Pivot's carbon offsets not because he is paid to do so, but because he cares about the cause. Most people do not share his commitment to environmental sustainability, and few have the time or money to sustain a strong and unpaid commitment to such a project. That being said, as Arts Council England discovered, increased involvement in sustainability initiatives has the potential to expand a dance company's income sources. Thus, implementing sustainability measures could lead to new sources of support that would help to fund additional sustainability endeavors.

The other drawback to these projects is that they focus only on the day-to-day operations of a dance company. Consequently, they ignore a major asset available to these artists, namely the art they are creating. This is not necessarily a bad thing. Improving the sustainability of a company's operations is a valuable endeavor. However, art itself is another powerful tool that can be used to bolster the potential relationship between dance and sustainable development.

The Artistic Approach

Art is a driver and creator of culture. As Arts Council England explains, "The creative community, the epicentre of culture, has a special contribution to make to the world: it shapes and builds culture, identity, communities, and values" (Julie's Bicycle, 2015). Art shapes and expresses ideas. It is what delves into the psyche of a culture, exposing and possibly transforming the social status quo and value system. Therefore, the actual art that artists create could be an immensely useful tool for sustainability advocates.

Figure 3: Eiko & Koma performing *River* in the Delaware River in 1995.



Source: Photo by Bruce R. Feeley. *River* (Outdoor Work) (1995). Eiko & Koma. Retrieved from <http://eikoandkoma.org/aboutriver>

Eiko & Koma

Dance artists Eiko & Koma are known for their stark, dramatic, and moving performances. Their work reflects influences of Japanese Butoh and early twentieth-century German expressionism but remains unique with characteristically slow and extreme movements (Acocella, 2011). The environment around the dance (whether natural or manmade) is key to Eiko & Koma's choreographic process (Yamada, Yamada, & Yokobosky, 2000). The use of environmental factors in movement invention came early in the duo's career and has remained throughout. Since beginning to choreograph in the 1970s, they have danced with beach seals, on top of landfills, in lakes and streams, and in front of the World Trade Center (before and after the September 11th attacks) (Yamada *et al.*, 2000; Kloetzel & Pavlik, 2011).

River (1995) (Figure 3) is a powerful example of Eiko & Koma's exploration into environmental subject matter.² Tired of working inside studios and theaters, Eiko & Koma moved their performance outdoors (Yamada *et al.*, 2000). Premiering in the Delaware River in Easton, Pennsylvania, this 70-minute dance is entirely dependent on the body of water in which it is performed. The performers start upstream and let the river's current pull them downstream toward the audience. At the end, the river's natural flow carries them off stage (Yamada *et al.*, 2000). In between that entrance and exit, as Koma explains, "we dance and linger a little longer" (Miller, 2009). Wearing white draping fabrics and painted faces, Eiko & Koma drift in the river alongside a floating sculpture of wooden branches and accompanied by a gentle flute melody. The movement is slow, simple, and purposeful with few displays of technical brilliance. This simplicity reflects the tranquility of the river. As dance critic Joan Acocella (2011) explains, Eiko & Koma

² The following analysis is not based on a live performance of *River*. Instead, it comes from video excerpts of the piece, interviews with Eiko & Koma, and critical reviews of the work.

become “*part of nature*—something bumping out of the tree, the leaves, as slowly as changes take place in those elements.”

However, the dance is by no means peaceful. Although slow and simple, the movement is full of tension. As Acocella (2011) writes, “...they seemed to be in pain. Think of those war stories one hears in which, after a massacre, the arriving troops find, under a pile of corpses, an arm or a leg feebly waving...” *New York Times* dance critic Jennifer Dunning (1995) described how Eiko, who appears at first like a “Pre-Raphaelite rendering of a water-bound, long-haired Ophelia” is so transformed by her movement that by the end, she looks like a drowned soldier.

River is an inherently sustainably-minded work. As Dunning (1995) affirms, *River* is “quintessential outdoor art: something come upon unexpectedly, privately, an odd and unfathomable phenomenon of nature.” Beginning at sunset, the dance makes use of the Earth’s natural dimming (Yamada *et al.*, 2000). Although stage lights do come on once the sky blackens, this use of natural light draws the audience’s attention to an important natural feature: the sun. Also, it allows the production to use less electricity than if it were artificially lit.

Eiko & Koma go beyond simply utilizing natural features in their pieces. At each new site, they collaborate with locals to learn about the science and history of the location (Yamada *et al.*, 2000; Kloetzel & Pavlik, 2011). Frequently, they clean the river with local volunteers so that it is safe to perform in (Kloetzel & Pavlik, 2011). The cleaning process involves checking and improving water quality as well as removing debris from the riverbed (Kloetzel & Pavlik, 2011).

While sustainability themes are apparent in Eiko & Koma’s work, they are not its main focus. Rather, Eiko & Koma continually use natural features in their creations simply because it interests them. “We like to dance about something that is compelling to us, and so, often, that is the tree, it is the mountains, and it is seals” (Yamada *et al.*, 2000). The environment becomes a choreographic tool. “Nature has an infinite vocabulary,” Eiko explains (Yamada *et al.*, 2000). Through the landscape and the resources it provides, the duo uses nature’s vocabulary to generate material. Ultimately, the natural features become an integral part of the work. They determine where audiences view the work and how Eiko & Koma conduct their movement. As Eiko asserts, “The leaves, water, etc., are all a part of our body extension, which provokes us to move in a certain way. They become both our house and our costume” (Yamada *et al.*, 2000).

Beyond choreographic tools, Eiko & Koma see nature as a means of better communicating with audiences. Through their dance, they seek to “have a more universal exchange” (Yamada *et al.*, 2000). This exchange relies not on an appreciation or excellence of technique, but instead on an understanding of physicality and setting, concepts innate to life on Earth. Everyone experiences movement and everyone experiences space. Through their work with natural materials, Eiko & Koma seek to reconnect their audiences with these two

fundamental parts of life. “It’s not that we are only interested in animals or plants,” Eiko explains, “but we’re interested in life as life, and sometimes it is not necessarily only about the human” (Yamada *et al.*, 2000). She goes on to say,

Our primary concern, though, is how to be part of something larger than who we are. In that sense, we are visitors to the river. During our visit, we share the time with the river and then we disappear and the river is left alone. People who live in the community have a sense of seeing the river in a very new, different way...This will hopefully stay with the audience. We hope that we are giving some kind of awareness to the environment as much as to the community (Yamada *et al.*, 2000).

The fact that Eiko & Koma create environmental work from something other than an environmentalist perspective makes their work all the more powerful. Enlisting the environment as a choreographic tool rather than a political statement seems to allow Eiko & Koma to avoid the trap of depressing and overbearing language that environmentalists often fall into. Their work most definitely raises attention to issues about sustainability and environmental health, but it does so by drawing attention to the beauty and uses of nature. It does not preach the reasons that nature must be saved, but instead exposes the benefit and importance of it.

Vertigo Dance Company

Vertigo, an Israeli contemporary dance company, incorporates both the operations and artistic approaches of dance sustainability into its work.³ Based in the Eco-Arts Village built by artistic directors Noa Wertheim and Adi Sha’al, Vertigo is known for its social and environmental activism (“Biographies,” n.d.). Located at Kibbutz Netiv HaLamed-Hey in the Elah Valley between Jerusalem and Tel Aviv, this Eco-Arts Village allows the company to operate sustainably. The studios are refurbished chicken coups that were renovated using recycled wood and local building materials (Wertheim, 2010). The Village utilizes renewable energy technologies, such as solar panels, and its gardens are run with sustainable agricultural practices (Halon & Lebor, 2011; Israel, 2014; Dorit Talpaz, 2012). Additionally, Wertheim and Sha’al organize workshops and artistic residencies at the Village for people interested in green technologies, building techniques, and gardening.

The sustainable principles that Vertigo Dance Company practices in its operations inform the choreography that Wertheim (the company’s main choreographer) creates. Wertheim’s choreography derives from a characteristically

³ As with Eiko & Koma, the following discussion sources information from interviews, articles, and video excerpts of the discusses works, not viewings of live performances.

Israeli lexicon of contemporary dance. It is extreme and physical with a low center of gravity, intricate joint articulations and extensions, and energetic dynamics.

Reflecting Sha'al's experience as a member of the Batsheva Ensemble, Wertheim's style has aesthetic similarities to the sensation-based movement of Ohad Naharin's Gaga Technique.

However, Wertheim's interest in social and environmental issues makes her work unique and distinctively "sinuous, organic and rooted to the earth" (Kussell, 2016).

Figure 4: *Birth of the Phoenix* is performed under this geodesic dome.



Source: Dekel, A. (2012, March 25). Napoli teatro festival Italia 2012: Focus on Israeli dance. *Midnight East*. Retrieved from <http://www.midnighteast.com/mag/?p=18473>

Environmental themes are obvious in Wertheim's piece, *Birth of the Phoenix* (2004). Inspired by soil and a desire to no longer perform indoors, Wertheim choreographed a dance that "examines the human relation to and alienation from the earth" (Kussell, 2016). Like Eiko & Koma's *River*, *Birth of the Phoenix* is performed outdoors, taking place within a bamboo geodesic dome (Figure 4) and on top of a circular stage covered in dirt. The dirt is integral to the dance. As the dancers spin, leap, and roll, the soil flies into the air and sticks to the costumes. Like the water in *River*, the dirt becomes a set, a prop, a costume, and another performer.

Although *River* and *Birth of the Phoenix* are performed outdoors, they are not necessarily site-specific. They require specific natural features, but those features exist in multiple places. As a result, the dances are transportable. *River* and *Birth of the Phoenix* have been performed in multiple outdoor locations. Eiko & Koma even adapted their work for indoor spaces at the American Dance Festival and Lincoln Center ("*River* (Outdoor Work)", n.d.).

Both Eiko & Koma and Vertigo Dance Company have created sustainably-minded work for indoor spaces as well. Vertigo's *White Noise* (2008) (Figure 5) takes place on a traditional proscenium stage and, like *Birth of the Phoenix*, explores human disconnect with the natural world (Kussell, 2011). Featuring costumes adorned with large bar codes and music that mixes urban and wilderness sounds, *White Noise* questions modern society's connection to material consumerism (Rottenberg, 2008; Kussell, 2011; Kaye, 2017).⁴

Figure 5: *White Noise*, choreographed by Noa Wertheim



Source: White noise at the Revolution Orchestra. Vertigo Dance Company. Retrieved from <http://vertigo.org.il/en/vertigo-company/white-noise/>

During *White Noise* performances, Vertigo asks audience members to bring old items to barter and trade with other audience members. Called “Hand to Hand,” this program makes audiences aware of their consumptive habits by encouraging them to recycle unwanted items (Wertheim, 2008; Kaye, 2017). It provides audiences with insight into the anti-consumerism message behind *White Noise*, but also takes direct action to reduce waste.

Discussion

The aesthetic differences between Vertigo Dance Company and Eiko & Koma make the sustainability implications of their work different. Eiko & Koma's intensely slow, intentional dancing that is intimately connected to the landscape puts more attention on the environment than on the humans. Eiko & Koma become features of the space, so their dancing draws the audience's attention to the space.

⁴ Wertheim is currently revisiting and reworking *White Noise* in a collaboration with The Revolution Orchestra. The new version will premier in the spring of 2018.

Alternatively, at Vertigo Dance Company, Wertheim's physical and dynamic choreography highlights humans in contrast to the environment around them. Rather than making the dancers a part of the surrounding space, Wertheim focuses on the evolving relationship between humans and space. From a sustainability point of view, both of these messages are important and can be used in tandem to target separate topics and audiences.

Even with these differences, the way in which these dances impact sustainability is similar. The effect that they have in terms of increasing environmental appreciation is subtle, but impactful. The reason that art is poignant and provoking is that it can question and highlight concepts, arguments, and ideas outside the limits of rational, everyday language and thought. Thus, dances about sustainability issues have the potential to delve into a much deeper form of environmental advocacy that imaginatively analyzes value systems, societal norms, and other concepts surrounding environmental problems. Dances like *River*, *Birth of the Phoenix*, and *White Noise* do not tell people what to do or overtly criticize their lifestyles. They do not rely on statistics or projections about future disaster to make a point. Instead, these dances supplement scientific theory by reframing the conversation, bringing environmental concepts into a new context. This new context is potentially less politically polarizing and off-putting than sustainability's usual setting because it is not coming from the usual sources, namely politicians, media outlets, and scientists who foster and receive prejudice based on their affiliations with certain environmental issues.

That being said, even if the dance is political it can be a useful tool for sustainability. Reshaping any argument (through dance or other mediums) makes that argument stronger. New versions of the argument will highlight different elements and draw attention to issues in diverse ways. A reframed argument has the potential to appeal to new audiences who may not receive or care about a message in its original setting. A climate skeptic may not be receptive to discussions about climate change from climatologists or journalists who they perceive as biased. However, they may be more receptive to the conversation if it comes in a new location from new agents who have new arguments. If, for instance, this person saw a dance that expressed the value of natural resources through abstraction and creativity, they may gain a more emotional and value-based connection to those resources and have a greater interest in preserving them.

Sustainably-informed dances, especially the outdoor works discussed above, reshape perceptions of the space around us (Kloetzel & Pavlik, 2011). Dancing alters any space, transforming it into a place of action and human connection. When dance occurs in an everyday space, it transforms into a place with a unique story, memory, or emotion. After seeing *River*, one audience member commented, "All summer, I have been bringing my kids to this place, and I have never seen this river as a 'river'" (Kloetzel & Pavlik, 2011). By watching dance in a familiar river, this woman saw the

river differently. It gained its own intrinsic value. Many philosophers dating back to the time of Plato and Aristotle have asserted that intrinsic valuing (seeing the good in something for its own sake) is more profound than utility valuing (seeing the good in something for the services it provides). Appreciating a space for its own sake provides a deeper type of respect that will likely lead to greater compassion.

Environmentally motivated choreography like that of Vertigo Dance Company and Eiko & Koma reveals a more profound solution to sustainability issues. It helps reconstruct our perception of the environment and instill a sustainable set of values that derive from a place of appreciation and understanding rather than one of rapprochement and fear. In the long run, this tactic is more lasting because it aims at the underbelly of culture, altering the way that we see and interact with the world around us.

There are drawbacks to this dance-sustainability partnership. The main obstacle is visibility. Dance does not have the pop cultural appeal of other art forms like music or film. Dance's lack of visibility among the general public in western, but especially American, culture is a complex issue with numerous and historic roots. The United States was founded on a set of Puritan values that perceived dance as sin. Certain aspects of western theatrical dance history only enhance this historical perception. For instance, there is a long history of prostitution and sexualization (especially of the female body) in ballet. Although perceptions on morality and religion have changed drastically in past centuries, their legacy in regards to dance has not vanished completely. Still, dance is often associated with promiscuity and is not always seen as a legitimate or intellectual art form. This perspective is only exacerbated by the fact that dance and dance history education (like environmental science education) is lacking. Dance is not taught with the same frequency or depth as other art forms like painting, theater, music, or film, which most people come into contact with, in some form, during their formal education as well as in their daily lives.

Eiko & Koma and Vertigo Dance Company are well known in the modern dance community, but their work is not widely displayed to the general public. It is unlikely that many people without backgrounds in either dance or sustainability would seek out the opportunity to see these artists simply because most people are unaware that these artists exist. It is also possible that their work would be distasteful to certain audiences. With minimal and slow movement patterns, Eiko & Koma's dances are highly experimental and lack the sensational overload of more popular performance styles (Kloetzel & Pavlik, 2011). Wertheim's choreography, which is dense with vigorous, sensation-based movement, would probably not face this issue, but it does incorporate other elements that non-dancers might find off-putting. This includes a liberal use of the pelvis and torso that may appear sexual to unaccustomed viewers.

Appealing to a general audience is a problem throughout the dance world. Kidd Pivot discovered this during the first phase of its collaboration with Offsetters. Initially, Offsetters agreed to sponsor Kidd Pivot in exchange for visibility in the company's promotional materials. However, Offsetters realized that Kidd Pivot does not offer much visibility, at least compared to other organizations that it sponsors such as the Canadian Olympic Team (Beauchesne, p.c., 2016). The work that Offsetters put into the Kidd Pivot sponsorship did not equal the visibility that Kidd Pivot — an internationally renowned dance company — could offer.

Improving the visibility of dance will be crucial if it is used as a communication tool for sustainability. It is possible that collaborative work between the two fields could aid this endeavor. Work about sustainable narratives could entice audiences and funders interested in sustainability but not necessarily dance, thus widening dances' support network. This idea is central to Arts Council England's Resilience and Sustainability campaign, but examples of it happening are so far limited. Moreover, by interacting with a scientific field, dance could gain legitimacy among academics and society. Unlike the visual arts, music, or theater, dance has a small academic wing and is less widely understood by the general public. Interacting with scientists and scientific ideas could help dance appear more legitimate to less knowledgeable viewers. This aspect of the dance-sustainability collaboration is beyond the scope of this study, but has great potential for further research.

Conclusion

Dance is an inherently spatial and ephemeral art form. These qualities give dance the possibility of being a leader of sustainability, but dance is not living up to that potential. There is ample space for the dance community to become more sustainable by improving the inefficient and wasteful practices of many dancers and dance companies. Programs originated by Arts Council England, Kidd Pivot, and Vertigo Dance Company (with its Eco-Arts Village) are excellent examples of the potential for this type of work. They are setting examples of sustainable business practices, funding requirements, and material consumption that all dance organizations should follow. These sustainability endeavors can start small. Consider reusing or repurposing costumes. Stay cognizant of sets or props and try to use them in the least wasteful way (is a prop that can only be used once and must be replaced for each performance a sustainable choice, environmentally or economically?). The more that dance artists and organizations research, test, and discuss sustainability endeavors, the more advances and innovations will be made.

Despite their successes, the projects discussed above are only starting points. They initiate the conversation, but also expose the inadequacies of the dance community's current relationship to sustainability. Improving this dance-

sustainability partnership also requires that dancers and choreographers start incorporating their artistic voices into the sustainability conversation. If utilized correctly, dance could be an especially potent tool to communicate ideas and information about sustainability issues. It could reframe the environmental conversation so that it appeals to broader audiences and focuses on deeper cultural sources of unsustainability.

This is not to say that dance is the only solution to our environmental problems. It is also not asserting that all dance should be about environmental themes. Rather, it emphasizes a potential partnership between the dance and sustainable development communities that could improve the education and communication methods available to sustainability advocates and environmental scientists.

A true shift toward a sustainably minded society will come from many sources. It will come from improvements in technology, changes to economic structures, and implementations of political tools. However, all of these changes point toward one main solution to our current environmental problem: culture. No matter how many renewable energy technologies we develop or environmental restrictions we put in place, a long-lasting change toward a sustainable society is ultimately going to result from a shift in our culture and the values that it creates. The arts, a driver and innovator of culture, are therefore an important asset to sustainability. They could help to shift the values of our society in a sustainably minded direction, creating much more lasting impacts on the future of dance, sustainable development, and the planet as a whole.

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