



Interdisciplinary: Collaborative Art and Science to Create Artworks and Understand the Environment

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Abstract

This paper delves into interdisciplinary approaches to the creation of artwork by integrating two distinct scientific elements. Exploring the challenges and opportunities inherent in the creative process necessitates collaborative thinking between the realms of art and science. Despite often being regarded as separate domains, in reality, art and science can be intertwined in numerous contexts. Narratively, this paper seeks to provide a concise overview of the concept of generating artworks by amalgamating two scientific elements. Through case analysis and a review of the existing literature, various issues that may arise can be identified. The fusion of art and science plays a pivotal role in addressing the increasingly pressing concerns of the environment and climate change, with the aim of producing works that elicit empathy and inspire action. The "Human/Nature" exhibition serves as a concrete illustration of how art and science can collaborate to communicate messages about the urgency of climate change. In this exhibition, art facilitates the connection between environmental issues and personal emotions and experiences, enabling society to feel its impact more profoundly. Conversely, science provides a robust scientific foundation and data that underpin the comprehension of climate change, affirming that art serves not only as a form of expression but also as a catalyst for positive social change.

Keywords: *Interdisciplinary; Art; Science; Environment*

Introduction

Knowledge is an interconnected entity consisting of three inseparable elements. As posited by Warfield, Kemeny, and Lachman, these three elements encompass the process of conducting activities employing systematic methods with the intention of generating organized knowledge. Systematic knowledge, as comprised of these three elements, essentially constitutes the outcomes, outcomes, and methodologies employed in the endeavors of scientists. In essence, art shares a fundamental similarity with the core of science. Art also constitutes an indivisible unity encompassing method, activity, and knowledge. Each artistic creation is underpinned by the three elements of science, underscoring the fact that art and science share the same foundational pillars (Sunarto, 2015).

In the discourse concerning the interplay between science and art, Susanto Imam Rahayu has argued that both disciplines are pivotal in the formation of global civilization. Despite the conventional

perception of science and art as disparate realms of human endeavor, numerous researchers have posited that they share a common origin. According to Kasiyan, any creative process invariably relies on imagination as a wellspring of intuition and inspiration. This insight serves to elucidate art's role as a conduit to civilization. Imagination, often closely associated with art, serves as its fundamental underpinning. The framework of imagination operates within the domain of diverse emotional subjectivity and is distinguished by its capacity for boundless development (Kasiyan, 2020). This demonstrates that art can indeed coexist with science, as evidenced by certain scientists worldwide who possess artistic talents. For instance, W.K. Heisenberg, a German subatomic theorist, exhibited aptitude in German music and poetry. Furthermore, Leonardo Da Vinci, an Italian Renaissance painter, made significant contributions to the fields of anatomy and astronomy (Yusa, 2016).

Despite the fundamental distinctions between science and art, they share a common process for cultivating creativity, imagination, and synthesis skills. Both scientists and artists are tasked with representing the world through their unique perspectives. Scientists commence with their imaginative faculties, guided by the belief that nature possesses an underlying order beneath its apparent complexity. This conceptualization finds expression in natural laws grounded in aesthetic principles. Art and life maintain a close and symbiotic relationship, and they can be explored through personal experience, observation, and experimentation across various mediums. Art thrives on creativity, with each individual possessing their distinct reservoir of creative potential and imagination. Consequently, a plethora of artistic forms emerges, giving rise to fresh expressions of aesthetic beauty. It is essential to recognize that each person's aesthetic perspective is distinctive; thus, a piece crafted with excellent materials and media may not necessarily receive unanimous acclaim from all viewers. Creativity thrives on the vitality of ideas, and when a work lacks innovation and creative input, it may appear monotonous.

According to Susanto, the notion of science and art being interconnected arises from the concurrent emergence of new paradigms in both domains. Nevertheless, in Indonesia, the prevailing educational approach predominantly prioritizes science as an exact science, often neglecting or deeming other disciplines as less significant. The swift progress in science and technology has further exacerbated this divergence, with limited efforts to foster mutual understanding between the realms of science and art. Concerns are beginning to surface regarding the potential stifling of people's creativity. This predicament stems from an environment that promotes logical and systematic thinking, while the application of science and technology necessitates an aesthetic dimension derived from imaginative and creative thought processes (Huda, 2013).

In contemporary times, with the escalating environmental uncertainties and the looming threat of climate change, there is a growing recognition of the imperative for immediate action. Recent research conducted by Concordia University, unveiled on October 19, underscores the significance of community engagement in addressing environmental concerns. While science and technology have provided valuable insights into environmental degradation and climate change, data and technology alone fall short of addressing these challenges comprehensively. Art possesses a unique capacity to evoke the emotions and enthusiasm necessary to tackle environmental issues. Paul Shrivastava, the Director of the David O'Brien Center for Sustainable Enterprise at Concordia University, contends that art constitutes a pivotal element in addressing the crisis facing our natural world. Art is perceived as an integral facet of humanity's survival instinct that has served humanity for centuries. Within this framework, art assumes the role of a tool that aids modern societies in confronting environmental challenges and climate change. The amalgamation of science and art is regarded as a potent instrument for sustainable development, extending its influence beyond the realm of art into the domain of business. Art not only facilitates the comprehension of environmental issues but also serves as a catalyst for innovation within environmentally conscious enterprises. For instance, Montreal in Canada, boasting nearly 20% of its workforce in creative fields, exemplifies the role of the arts in addressing environmental problems and enhancing economic well-being. This paper will delve further into the synergy between art and science in

the creation of works aimed at raising awareness of environmental issues, aligning with the outcomes of Concordia University.

In Indonesia, there is a noticeable trend of heightened awareness concerning environmental issues. This trend is characterized by a growing interest among individuals in adopting sustainable lifestyles, a development driven by the adverse effects of environmental pollution and ecosystem degradation. This increase in awareness and concern is observed annually (Dr. Mondry, 2023). In this context, the heightened awareness of environmental issues is closely correlated with the proliferation of environmental consciousness communities. To illustrate, in 2006, there were a mere 1,100 environmental care communities in Indonesia. Nonetheless, by 2017, this number had surged to 9,800 communities, indicative of a surge in public awareness, particularly concerning the management of waste-related concerns. Apart from the expansion of these environmental care communities, another contributing factor to the escalation of environmental consciousness is the presence of educational initiatives that promote eco-friendly lifestyles and activities that foster a reconnection with nature (Islamiyah et al., 2022). Art integrated into the environment possesses significant potential for enhancing the aesthetics of infrastructure and urban planning, concurrently offering educational opportunities through an aesthetic perspective. Environmental art also harbors the capacity to empower local communities and bolster economic development at the grassroots level. Both art and ecology represent potent instruments for conveying environmental concerns to a broader audience (Anggrian, 2022).

In this paper, we will center our attention on the interdisciplinary nature of artistic creation and establish a connection with environmental issues that are increasingly pressing and poised to exert a substantial influence on the future of human existence. Over time, human lifestyles and paradigms have undergone noteworthy transformations. The repercussions of these shifts significantly impinge on the sustainability of the natural world and the environment within which humans reside. Contemporary society often tends to prioritize personal interests and the satisfaction of individual needs, often without due consideration for their impact on the surrounding natural environment. Actions such as haphazard land clearance, deforestation for construction purposes, and various other activities have disrupted and inflicted harm upon the ecosystems in our midst (Kemala, 2011).

Present-day human lifestyles are increasingly diverging from harmony with the natural world. Natural resources are frequently perceived solely as economic assets available for exploitation. The policies implemented often lack considerations of justice, appropriateness, or compensation for such exploitation. The resultant impact is detrimental to nature and disrupts the delicate equilibrium of ecosystems. Agricultural land, originally intended for farming, undergoes transformation into commercial areas, factories, or residential spaces, adversely affecting the livelihoods of farmers. Contemporary society has borne witness to grave and deleterious alterations in the state of nature, characterized as an environmental crisis, particularly in Indonesia. The consequences of this environmental crisis exact a heavy toll on both the natural world and human existence. Therefore, to safeguard and conserve the environment, the active involvement of the community is indispensable. One approach to raising awareness regarding environmental issues is through the collaboration of art and science. Art can serve as a powerful tool for disseminating crucial messages to the public concerning the urgency of environmental preservation and the challenges posed by climate change. As a universal language that stirs emotions, art possesses the capacity to influence people's perspectives and behaviors toward the environment.

Through the collaborative synergy of art and science, the aim is to produce artworks that not only inspire but also incite tangible action in response to the environmental crisis. This endeavor seeks to foster a deeper comprehension of environmental concerns and stimulate concrete initiatives that promote sustainability and harmony between humanity and the natural world. In light of the preceding contextual elucidation, the problem formulation in this paper encompasses the following inquiries: 1) What role does interdisciplinarity play in the creation of artwork? 2) What roles do art and science assume in addressing the progressively urgent challenges posed by environmental issues and climate change?

Discussion and Results

1. Interdisciplinary in Art Work

According to A. E. Prentice, *interdisciplinary* research entails the interaction among multiple disciplines, regardless of whether they possess inherent interdisciplinary connections. This interaction is actualized through research initiatives designed to assimilate concepts, methodologies, and analyses. In contrast, multidisciplinary entails the amalgamation of multiple disciplines to address a specific problem. Conversely, transdisciplinarity strives to formulate novel theories or axioms by establishing relationships and interconnections across diverse disciplines. (Yuwana, n.d.).

In the scholarly discourse of G.R. Lono Lastoro Simatupang, it was asserted that fundamentally, art lacks the autonomous capability to enact change in the world. This limitation arises because art operates as a mediating process intricately linked to the contextual factors of space and time. Conversely, science tends to strive for generalization, whereas art places emphasis on its distinctive and exceptional character. Science employs the process of abstraction to distill the core essence and universal principles from diverse situations, while art consistently engages with individual cases through tangible and specific manifestations (Agung, 2016). From this elucidation, when art and science mutually inform each other, it leads to a transformation in the realm of art education. The conventional monodisciplinary approaches give way to interdisciplinary, multidisciplinary, and transdisciplinary approaches, which encompass a diversity of artistic fields.

Interdisciplinary research within the domain of art education illustrates that research endeavors in art education are comprehensive rather than exclusive. From a paradigmatic standpoint, the fine arts can be elevated to a subject of inquiry within the scientific sphere, exerting a substantial influence on the comprehension of epistemology and values (axiology) inherent to fine arts education. When deliberating upon the paradigm of art, a societal stereotype frequently emerges, one that tends to confine art within the domain of emotion exclusively. This stereotype is often linked to personal and subjective experiences and is not perceived as being associated with the more objective and logical facets of scientific inquiry (Kasiyan, 2015).

When individuals become accustomed to familiar materials, they often employ them without delving into comprehensive research or engaging in further contemplation, thus becoming entrenched in preconceived notions. This can stifle creativity in the artistic process. Conversely, if one possesses the capacity and willingness to invest time in examining objects that have conventionally held customary meanings, the outcome may involve the discovery of unexplored facets capable of inspiring novel ideas and broader horizons. The pivotal factor here is creative exploration, which unlocks a realm of extensive imaginative possibilities along with fresh visual perspectives and viewpoints.

Art, as a subject of inquiry, ought to mirror diversity within the same cultural framework, akin to language and other cultural phenomena. In this context, research within the realm of the arts should be viewed as a pragmatic and expansive category. Art constitutes a genuine form of expression that warrants a comprehensive examination, thus it should be approached with inclusivity rather than exclusivity. Within an educational context, the instruction of art should be administered progressively, encompassing aesthetic experiences, artistic practices, artistic expressions, and the associated values of acculturation.

In contemporary times, the practice of combining multiple fields simultaneously is referred to as interdisciplinary. There exist two distinct viewpoints regarding the interdisciplinary approach. Some scholars contend that the concept of interdisciplinarity traces its origins back to classical theories propounded by philosophers such as Plato, Kant, Hegel, and Aristotle (Klein, 1990:19; Adi, 1998:82). Conversely, other experts argue that the interdisciplinary approach is a phenomenon of the twentieth century, arising as a consequence of transformations in the realm of education. According to Klein

(1990), the interdisciplinary approach is embraced by educators, researchers, and various other practitioners because this approach possesses the capability to furnish solutions to intricate situations and tackle wide-ranging issues. It facilitates the exploration of interdisciplinary connections and the resolution of problems that extend beyond the confines of a single discipline. Furthermore, it enables a more comprehensive understanding of both narrow and broad-scale issues (Yuwana, n.d.).

Science and art are not inherently contradictory; instead, they share a complex and interconnected relationship. Science, technology, and art are not like distant entities, such as earth and sky; they intersect in various ways. Science encompasses a broad spectrum, as does art, which encompasses fine arts, dance, music, drama, and craftsmanship. Even within fine art, there exists considerable diversity, including sculpture, graphic arts, painting, various crafts, batik, and other forms of artistic expression. In essence, art and science are mutually dependent. Every object created and used by humans, everything discernible to the naked eye, serves as a tangible example of the amalgamation of science, technology, and art. For instance, if clothing were solely an artistic endeavor without the incorporation of science and technology, it would result in garments made from woven dry leaves. Conversely, if an object were solely a product of science and technology without any artistic influence, it would lack form and aesthetic appeal. Furthermore, the art of music also contains scientific elements. Musical notes, such as do, re, mi, fa, sol, la, si, essentially correspond to different frequencies. When combined, they create harmonies or chords that involve frequencies and vibrations commonly explored in the field of physics.

In the realm of agricultural science, the research of landscape or spatial science and plants is closely intertwined with fine art. It imparts an understanding of the harmonious interaction between plants and their environment. This goes beyond simply planting vegetation in a specific location; it also involves ensuring that the aesthetics align with the characteristics of the plant. In this regard, one must possess knowledge of the type of soil, topography, and other factors that are conducive or unsuitable for the plants. This parallels the principles of fine art, where one delves into topics such as color combinations, geometric shapes, and the fundamental principles of artistic composition..

One artist who has been deeply immersed in the realm of interdisciplinary endeavors is Andi Acho Mallaena, an Indonesian painter and sculptor hailing from Bugis, South Sulawesi, Indonesia. He maintains an ongoing commitment to advancing his knowledge across various domains, serving as a reference point for the creation of artworks that synthesize his two areas of expertise. In his cross-disciplinary pursuits, which bridge biology and art, Mallaena consistently produces distinctly unique creations, imbuing his visuals with elements of biology. He persists in experimenting with different media to pioneer fresh innovations in visual expression within his artworks. The comprehension of zoology and botany finds manifestation within his artistic concepts, serving as a testament to the synergy between art and science. The combination of these two domains reflects an acknowledgment of the profound significance of fostering collaboration between science and art in conveying the reality and the inherent richness of the natural world explored through artistic expression. Consequently, this paradigm shift in art education, transitioning from a monodisciplinary approach to an interdisciplinary one, is underscored by the awareness of the imperative role played by the convergence of science and art.

The notion that an artist holds about the objective world, subsequently employed as the foundation for crafting a work of art, constitutes a unique interpretation that holds significance in transforming comprehension into choices, ultimately materializing in tangible form within the artwork. The paramount facet of knowledge and science lies in their utilization for articulating, seeking, uncovering, verifying, and implementing the truth with specific intentions and practical advantages.

The remarkable progress in the realms of art and design in contemporary times has opened up avenues for specialized medical imagery to address the challenges associated with researching cadaveric anatomy, often hindered by religious and philosophical convictions. Additionally, the presence of such depictions in antiquity can be inferred not only from the anatomical precision evident in human figures across diverse ancient art forms but also from the creation of figures embodying various disease

characteristics. These observations imply that artists of the past must have possessed knowledge of anatomical design encompassing both normal physiological forms and pathological conditions.

Although science and art are frequently perceived as distinct domains, they can exhibit interconnectedness in certain contexts. For instance, in the realm of digital art, artists frequently employ scientific principles, including mathematics, physics, or computer science, to craft intricate and sophisticated artworks. Additionally, some artists draw upon science as a wellspring of inspiration for their creations, delving into scientific concepts as thematic elements within their artworks.

In contemporary times, individuals possess the capacity to express their creativity without constraints related to space and time for their work and creative pursuits. Those with elevated levels of creativity often demonstrate the ability to generate novel concepts and creations. Leonardo Da Vinci, renowned for his prolific artistic endeavors and extensive research of human and animal anatomy, is lauded for seamlessly bridging the realms of art and science within his works. Leonardo Da Vinci was both an artist and a scientist, or conversely, a scientist and an artist.

Leonardo possessed a multifaceted and eclectic nature; his concept of being multitalented, a term prevalent in Renaissance discourse during the 15th century, depicted him as an individual endowed with extraordinary potential, capable of mastering multiple scientific domains. The Renaissance marked a pivotal shift in this perspective. Leonardo da Vinci (1452-1519), although not a physician by profession, displayed a keen interest in comprehending the human body's anatomy. He conducted numerous dissections and approached the research of anatomy as if no prior anatomical research had existed. In doing so, he produced a collection of anatomical drawings that constituted the initial systematic scientific anatomical works (Laios et al., 2013: 264).

During the 20th century, the preeminent anatomical artist was Frank Netter (1906–1991). His ardor for art led him to pursue formal studies in the field. Under the influence of family pressure, he also pursued a medical education and successfully completed a surgical internship. While he embarked on a medical career initially, he eventually transitioned to medical illustration to supplement his income. His medical illustrations stood out due to their scientific precision and artistic excellence, propelling him into a prominent position within the realm of medical illustration. (Laios et al. 2013: 265).

This demonstrates that art functions as a tool to enhance the research of medicine, particularly in the field of anatomy. From the Renaissance era to the present day, there have been advancements in medical illustration that have paralleled the progress of medical science. Despite the technological strides made in medical education, medicine maintains a strong connection to medical artistic illustration, serving as the foundational step in the journey toward medical science.

In the discourse on the intersection of science and art, Steve Jobs stands out as an American entrepreneur and inventor who adeptly integrates art, science, and technology to give rise to Apple Inc., the company behind innovations like the iPhone. The iPhone gained widespread recognition upon its feature in the October 31, 2007 edition of Time magazine, where it was hailed as the best creation of the year (Best Thing Invented This Year). One of the contributing factors to this accolade is the iPhone's visually pleasing design. Unlike most high-tech companies that often overlook design or consider it a secondary concern, Steve Jobs held a fundamental belief that "good design is as important as good technology." (Aksan, 2009: 101).

Apple has encountered a spectrum of feedback, both positive and negative, throughout its successful journey. However, it has also grappled with environmental challenges. Beginning in 2004, Greenpeace raised concerns about Apple's lack of support for a global initiative to recover unused Apple hardware devoid of reusable components. In December 2006, Greenpeace positioned Apple outside the top ten companies with regard to their efforts in managing toxic materials in their products. On May 2, 2007, Steve Jobs issued an open letter titled "A Greener Apple" to address these allegations, which were unsupported by evidence. A research conducted by the United States Environmental Protection Agency in

January 2006 found that Apple's hardware demonstrated favorable environmental performance compared to its primary competitors (Aksan, 2009: 103).

Examining Steve Jobs' trajectory in integrating art, science, and technology, we can deduce that an inventor's creation entails a significant degree of creativity and extends beyond the mere pursuit of gratification. This parallels the experiences of artists, musicians, designers, and other gifted individuals, where creativity arises from the fundamental impulse to explore novel concepts that align harmoniously with nature and enhance the aesthetic appeal of the surrounding environment.

2. The Role of Art and Science in Facing Environmental Issues and Climate Change

This essay will engage in a discussion and examination of the pivotal roles that science and the arts assume in addressing the pressing environmental and climate change challenges of our contemporary era. Both art and science possess immense potential to collaborate, aiming to heighten awareness and motivate actions that foster environmental sustainability. To explore the impact and potential of the interplay between art and science in responding to these urgent environmental issues, this paper will be divided into three pertinent subsections.

Climate change has assumed a central position in ongoing global dialogues. The fluctuations in weather patterns and environmental instability resulting from it carry numerous ramifications for all life forms on Earth, warranting sincere attention from the global populace. (Arwan, 2022). Climate change, which includes global temperature spikes, unpredictable weather fluctuations, rising sea levels, and natural disasters such as storms and floods, has damaged natural ecosystems and made human existence difficult, with profound and detrimental impacts (Dinas Lingkungan Hidup, 2019).

Unforeseeable seasons and weather patterns pose a risk to the agricultural sector, potentially leading to crop failures and, in certain instances, even drought. Beyond its environmental impacts, climate change also exerts repercussions that have direct and indirect implications for human health (Susilawati, n.d.). Extreme heatwaves hold the capacity to jeopardize both physical and mental well-being. Furthermore, the shifting weather patterns are increasingly linked to the proliferation of infectious diseases like malaria and dengue fever. Such developments pose a threat to global food security and have the potential to precipitate famine (Khoiron, 2009).

Climate change also exerts economic repercussions, manifesting in substantial infrastructure damage, the expenses associated with recovering from natural disasters, and diminished productivity within the agriculture and fisheries sectors. Conversely, investments in renewable energy and initiatives aimed at climate change adaptation necessitate substantial economic resources (Harmoni, 2005). The awareness of climate change issues has spurred countries worldwide to pledge to reduce greenhouse gas emissions through initiatives such as the Paris Agreement and other international endeavors. This underscores the imperative for global collaboration in confronting this challenge (Yuliani et al., 2023).

Society also bears a moral responsibility toward future generations, to ensure the provision of a better environment for their well-being. (Safudin, 2019). Future generations will inherit this Earth and contend with the consequences of today's societal actions. Nevertheless, within these challenges, there exist opportunities for innovation and the development of new technologies in areas such as renewable energy, energy efficiency, and sustainable practices. These innovations have the potential to stimulate economic growth, create fresh employment prospects, and play a pivotal role in addressing climate change issues (Ismail, 2021).

Art and science, despite their distinct approaches and languages, hold a significant role in endeavors aimed at tackling environmental issues and addressing climate change (Yoga & Sugiarto, 2021). Art and science contribute in mutually reinforcing ways. Art possesses a unique capacity to impart intricate and emotional messages to individuals, thereby instigating action. Various forms of art, including paintings, sculptures, music, and other visual expressions, can bring environmental concerns nearer to the hearts and minds of the audience. Art has the potential to elicit empathy, inspire shifts in

behavior, and render abstract issues like climate change more comprehensible (Mutohar & Rasjoyo, 2021).

Conversely, science furnishes a robust foundation for society's comprehension of climate change and its repercussions on the environment. Science offers indispensable data, verifiable facts, and scientific evidence that are pivotal in devising effective solutions (Aminudin, 2020). Scientists assume a highly significant role in climate change research, comprehending ecosystems, and identifying potential technological remedies. When art and science collaborate, they have the potential to generate potent synergies. Artists can imaginatively represent scientific data, aiding in bridging the chasm between profound scientific comprehension and public involvement. They can visually portray abstract concepts, such as society's reliance on the environment, in a poignant manner (Suganda, 2019).

The fusion of art and science not only heightens awareness of environmental concerns but also serves as a catalyst for tangible action. Within this framework, the "Human/Nature" exhibition serves as an exemplar of how art and science's roles are amalgamated to address these pivotal issues in a distinctive and compelling manner. In this exhibition, art assumes the role of a tool, inspiring and engaging individuals to confront the challenges posed by climate change (Cole, 2022).

The "Human/Nature" exhibition serves as a tangible illustration of the collaborative potential of art and science in confronting environmental issues and climate change. Within the exhibition, dystopian elements intertwine with notions of beauty, harnessing art as a means to convey a highly pertinent and profound message to society. A particularly noteworthy piece within the exhibition is the installation titled "Monument," crafted by artist Regan Rosberg. This work amalgamates natural and synthetic components, featuring a colossal tree fabricated from interwoven black plastic coils. The installation's allure is unsettling, captivating the viewer's gaze and enabling them to grasp the paradox between beauty and the adverse environmental ramifications of plastic..

The "Human/Nature" exhibition has a dual purpose. First, combining natural and synthetic materials aims to dramatize the current state of the environment and make us aware of the challenges faced. Secondly, the exhibition tries to provide a perspective that there is hope and action that can be taken in addressing climate change. One of the messages this exhibition seeks to convey is that art has the ability to make climate change issues more accessible and understandable to the public. In this case, art is functional in humanizing scientific issues that are often abstract.

The artist, Regan Rosburg, conceived the installation "Monument" with the intention of illustrating nature's adaptability and how species that have endured for millions of years can impart lessons on resilience. Simultaneously, she underscored the issue of employing plastics that serve a transient purpose for a brief duration but subsequently contaminate the environment for centuries. Furthermore, the exhibition integrates scientific components into art, including the visualization of climate change data. This aids individuals in gaining a deeper comprehension of the repercussions of climate change, a subject that is frequently challenging to grasp solely through numerical data.

Regan Rosburg, situated in Denver, Colorado, is an artist and naturalist who thrives amidst the urban commotion of this city. In addition to producing captivating works of art, she undertakes the responsibility of imparting knowledge to the upcoming generation. As an instructor specializing in fine arts and foundational principles, she imparts her expertise at both Rocky Mountain College of Art and Design and Metro State University. Within the realm of the art world, her name commands recognition, primarily owing to her painstakingly crafted resin paintings and installation pieces, which are imbued with rich sensory encounters and profound emotional depth (Rosburg, 2018).

Regan's artistic oeuvre mirrors her profound reverence for the natural world and her unwavering dedication to environmental concerns. Regan Rosburg stands as a recognized published author and an impassioned orator. Within the sphere of the art community, she not only assumes the role of an artist but also serves as an inspirational educator and author, ardently devoted to effecting positive transformation

through the medium of art and heightened environmental consciousness. Her presence within the art domain contributes significantly to our nuanced comprehension of both nature and the human experience.

The "Human/Nature" exhibition effectively acknowledges the role of both art and science in addressing environmental concerns and climate change. Within this exhibition, a diverse array of artworks is showcased, which seamlessly integrate elements from the natural world with synthetic materials, all with the overarching goal of engaging with the urgent matter of climate change. For instance, there are sculptures crafted from black plastic coils, mimicking colossal trees, juxtaposed amidst lush green moss and embellished with orchids. Additionally, textile artworks within the exhibition skillfully visualize data pertaining to climate change, conveying intricate messages about these critical issues in a distinctive and innovative manner. (Rose, 2022).

The art featured in this exhibition serves as a potent tool with the primary purpose of inspiring and mobilizing the general public. It harnesses the aesthetic and emotional power to establish a connection between individuals and the critical subject matter of climate change. The arts possess the capacity to elicit empathy, incite behavioral shifts, and render abstract issues such as climate change more immediate and pertinent to the audience. As an illustration, the diffusion of the scent of rain within the exhibition space serves to evoke a sense of empathy and foster a deeper connection with the natural world.

Concurrently, science contributes significantly by providing a robust foundation for comprehending the intricacies of climate change. Scientists fulfill a vital role in conducting research and gaining profound insights into the environmental repercussions of climate change. They furnish the essential scientific data and empirical evidence required for devising effective solutions. The amalgamation of art and science within the "Human/Nature" exhibition yields a potent synergy. The artworks astutely illustrate the scientific data, enabling viewers to engage more intimately with the pressing issues at hand. Through art, viewers are prompted to ponder, "If we do not take action now, when will we?" and are empowered to envision an alternative future that they can actively shape.

This exhibition additionally furnishes an opportunity for the public to actively engage with and personally respond to these concerns, including the possibility of composing letters directed towards their elected representatives. In this regard, art and science collaborate within this exhibition to stimulate proactive measures and convey messages underscoring the critical nature of climate change. Art serves as more than just a powerful emotional jolt; it also possesses the capacity to kindle inspiration, instill hope, and serve as a poignant reminder of the Earth's beauty and resilience, qualities that we must safeguard.

The exhibition in its entirety serves as a poignant reminder of the imperative for immediate action in addressing the climate change issue. It seamlessly combines elements of dystopia with touches of beauty to make a profound impact on viewers, urging them towards action. Furthermore, the exhibition firmly establishes that art occupies a pivotal role in catalyzing positive actions aimed at tackling climate change. Art has the capability to alter our perspectives, shifting them from a passive stance to one of active engagement, thereby assisting us in envisioning an alternative future and delineating the actions that can bring it to fruition.

This exhibition serves as a demonstration of the remarkable efficacy of art in fostering empathy, cultivating a heightened sense of social interconnectedness, and prompting self-reflection regarding environmental challenges. In the endeavor to address the urgent issue of climate change, art emerges as a pivotal instrument, capable of motivating individuals to take immediate action and eschew procrastination. The substantial engagement and inspiration elicited from the numerous visitors to this exhibition attest to the pivotal role that art can assume in galvanizing tangible actions that contribute to environmental sustainability and the mitigation of climate change. Art transcends mere self-expression; it embodies a catalyst for profound and constructive societal transformation.

Conclusion and Suggestions

The collaboration between these two disciplines in the creation of innovative artworks simultaneously fosters a deeper comprehension and offers diverse knowledge and perspectives. To begin, a scientist's discovery inherently encompasses a vital facet of creativity, extending beyond the confines of personal gratification. This parallels the experiences of artists, musicians, designers, and other gifted individuals, where creativity springs forth in response to an intrinsic drive to unearth novel insights that harmonize with the entirety of nature and bestow beauty upon its surroundings. Moreover, art possesses the capacity to elicit empathy and passion, rendering it a potent instrument for conveying messages and instigating behavioral change. A tangible instance of this phenomenon is exemplified in the "Human/Nature" exhibition, which synergistically amalgamates art and science to inspire affirmative action and articulate the pressing nature of climate change. Through the fusion of art and science, individuals can cultivate awareness and contribute to solutions that bolster environmental sustainability. The proposal underscores the importance of fostering collaboration and dialogue between artists and experts hailing from various domains in the development of artworks. This approach advocates for an interdisciplinary fusion of art and science, integrating elements from diverse fields into the process of learning and creating works of art.

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