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Exhibiting Development: Artistic Expressions and Development Dilemmas in World Expositions Since 2005

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The Department of International Environment and Development Studies, Noragric, is the international gateway for the Norwegian University of Life Sciences (NMBU). Established in 1986, Noragric's contribution to international development lies in the interface between research, education (Bachelor, Master and PhD programmes) and assignments.

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I, Cassidy Tucker, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Signature……*Cassidy Tucker*……

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ABSTRACT

Global development is the broad concept of creating a good life for everyone. However, the complex realities of contemporary development, and its diverse interpretations and approaches have made it difficult to reach the varying objectives of what makes a life good. The debates within the development field reveal a need to broadly examine and experiment with the concepts and ideas of development, particularly in other spaces and realms. On the premise that aesthetics and creative expression are forces of knowledge production and social change, this study reveals the role immersive art has in catalyzing development dilemmas and the ways art can create alternative spatial, political, cultural, social spaces in which to examine and experiment with the complex realities of development.

As historical broadcasters of a wider development discourse and discussion, this thesis attempts to understand the influences behind the temporal and specially built environments at World Expositions. Four distinct pavilion case studies suggest the ways in which these artistic spaces are in dialogue with contemporary development ideas regarding well-being and sustainability over the last twenty years. By using a methodological approach called multimodal visual discourse analysis, I explore the political, historical, cultural, artistic, and design contexts driving the formation of World Expo pavilions as well as their interactive and immersive features. This thesis offers a detailed study of the alternative domains that are communicating and interacting with contemporary global development concepts and suggests a potentially powerful, multifaceted role for arts-based research in the field of global development.

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ABBREVIATIONS LIST

ABR	Arts-Based Research
BIE	Bureau of International Expositions
C2C	Cradle to Cradle
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GNI	Gross National Income
HDI	Human Development Index
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
MDA	Multimodal Discourse Analysis
SAP	Structural Adjustment Program
SDG	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development Program
WFP	World Food Program

1.INTRODUCTION

In the past three decades, there have been many new and emerging approaches to development that critique the standard assumptions about progress, particularly in relation to who has the key to it and how it may be implemented. Today, development studies have now been conceptually and politically reoriented towards "sustainable development" (Esteva, 2010). One of society's challenges is understanding how to break from the conventional notions of what development once was and perhaps still is, economic growth. As conventional development theories are being reviewed and critiqued, alternative conceptions of a good life are being conceived. This research aims to focus on the contested visions of development, emphasized through post-development critiques and mainstream universal calls for sustainability and well-being. This chapter briefly touches upon the broader political, societal, and geographic context of this thesis, before the details of the analytical framework are presented.

Additionally, arts, culture, and creativity are also increasingly emphasized in development discourse. On the premise that aesthetics and creative expression are forces of knowledge production and social change, this study attempts to discover to what extent the tensions in the academic field of development have spilled over into other forms of expressing development, in particular immersive artistic spaces. World expositions are used as an indicator of development ideas as they have been historical broadcasters of a wider development discourse and discussion. Described as "palatable" forms of science and technology entertainment, world expositions can direct societal change through its narratives (Herrera-Lima, 2018). "World Expos, officially known as International Registered Exhibitions, are a global gathering of nations dedicated to finding solutions to pressing challenges of our time by offering a journey inside a universal theme through engaging and immersive activities." (BIE, 2021). The discourse on finding the solutions to the pressing challenges of our time is contextualized through its exhibition spaces and plays a leading role in the construction of what kind of future is favorable and attainable (Herrera-Lima, 2018). One method that world exposition pavilions employ to engage participants is through theming and immersion. Immersive art is the combination of utilizing multiple sensory and multimodal experiences of touch, smell, sight, sound, and sometimes taste, to create alternative worlds (Bell, 2008). Pavilions offer spaces of multiple architectural, material, performative, and technological approaches in order to entertain, educate, and incorporate a diverse range of actors (Lukas, 2016). These showcases and their spectacle display ideological foundations that need to be interpreted and analyzed.

The purpose of this research project is to examine the role art plays as reinforcing or rejecting agents of mainstream and post-development discourse. As methods of art-based research gain a foothold in the social sciences field,

examples of art as research in the context of development theories are very scarce (Wang et al., 2017). It is my hope that this study can contribute to building a knowledge base of how art can be used as research and how research about art can investigate a range of multiple disciplinary topics such as global development. Aiming to uncover how pavilions, as multisensory and immersive spaces, are communicating concepts of development, sustainability, and well-being over time. The main objectives of this investigation are to look at the following questions:

- What role does immersive art play in catalyzing development dilemmas and in what ways can it create alternative spatial, political, cultural, social spaces in which to examine and experiment with the complex realities of development?

- In what ways are world expo pavilions in dialogue with contemporary development ideas regarding well-being and sustainability over the last five expos/twenty years?

To meet these objectives, I have chosen a case study approach that can facilitate an in-depth analysis of multiple cases. Here I outline a brief outline of the cases I analyze. Because my study is concerned with more contemporary notions of development, I chose cases that occurred in World Expositions in the last fifteen years or since 2005. The Bureau of International Expositions (BIE) has had a total of seven occurrences of international exhibitions since 2005. However, only four of these seven are internationally registered and recognized as World Exhibitions, the others are listed as Specialized Expos. For the sake of transparency, this study is concerned only with International Registered Exhibitions or World Expos, as these events are bigger, more extravagant, are more globally inclusive, and have a longer duration, generally six months.

The first case is from the 2005 World Expo in Aichi, Japan. The second from the 2010 World Expo in Shanghai, China. The third and fourth cases are situated from the 2015 World Expo in Milan, Italy. The fourth World Expo was slated to occur in the year 2020 but was postponed due the pandemic. For this reason, no cases were selected from the 2020 World Expo in Dubai, United Arab Emirates.

ANALYTICAL FRAMEWORK

Here I will present the theoretical foundations that underlie the research covered in this thesis. First, explanations of the main theories and concepts are given to clarify how these are understood and applied herein. In addition, I provide information on the chosen themes that elucidates the state of sustainability and well-being within the forementioned theories. Lastly, I will offer an overview of the analytical framework I used throughout my study which connects contemporary theories of development with the idea of using sensory, immersive, and arts-based methods.

My goal is to open up the theoretically necessary questions concerning the critical dialogues between conventional notions of development and alternative perspectives about sustainability, nature, wellbeing, and culture. In this respect this research objective is to reveal some of the most important debates and critical analysis of development studies that exist and draw upon the alternative, nonacademic realms that these debates might be transpiring in, for instance within the arts and global mega events. The purpose of this investigation is not merely to enhance a critical perspective on certain development issues, but to deconstruct and dismantle conventional ideas of development studies by an exposition of new ways of seeing and engaging.

I chose to embark on this framework based on two factors. Firstly, because the post-development school of thought plays an important role in the production of critical knowledge and because this framework recognizes alternative forms of knowledge production. This framework of analysis involves a series of historical and contemporary development theorists; among them I identify the work of S. Matthews, G. Esteva, J. Clammer, W. Sachs, S. Latouche, S. Alexander, E. Gudynas, A. Ziai, and D. Haraway. However, in this investigation I will build on the concepts employed by some specific contemporary theorists outlined below.

This thesis draws on a deconstructive approach to development, and I examine conventional notions on development embedded in modern postulates on growth and progress. In this regard I adopt the analytical approaches of A. Escobar, a Colombian American anthropologist, and his view of the implications of architecture and design from his 2017 book, *Designs for the Pluriverse*. In this book, Escobar discusses how design, from consumer goods, digital technologies, and built environments, have been primarily driven by Western and capitalist sources. He argues that a more just society and sustainable world is possible through the reimagining and reconfiguring current design practices.

In addition, I utilize the analytical approach from Harald Heinrichs, a German sociologist, whose work focuses on various sensory and arts-based forms of knowledge production for sustainable development. Heinrichs argues that sensory ethnography and arts-based research methods reveal better understandings and applications of sustainable development practice and policy. Like many post development thinkers, Heinrichs argues that development is drastically limited, and is hesitant to transgress more "radically theoretical and methodological boundaries into alternative ways of accessing the world and gaining insights and representations beyond" evidence-based, quantitative indicators of progress (Heinrichs 2019, p 12).

To analyze how the immersive arts and alternative realms are in dialogue with contemporary development dilemmas, it is important to determine what the current development dilemmas are. For clarity, my study puts the current debates around development into two camps. One is the historical and conventional notions on development. The other falls into the more recent post-development school of thought. Each of these camps have

wide-ranging subsets of theories but for sake of convenience, I will only briefly discuss the key theoretical features that illustrate the most evident contrasts between the two.

CONVENTIONAL DEVELOPMENT

Here I outline the main theories that have shaped the field of development and their characteristics. It should be noted that the primary conventional development ideologies came out of a long history and tradition of economic, political, and sociological theorizing that began in Europe around the 18th century.

Development has largely been dominated by various economic approaches. One major figure is Adam Smith and his classical economic thoughts on policy. He believed that the economy should be used as means to maximize efficient resource use and increase well-being (Willis 2011, p 32). After some crushing economic events, such as the Great Depression, people began to question this idea. Economists like John Maynard Keynes thought the government could assist in promoting economic growth. He summarizes: "the enlargement of the functions of government, would seem to a nineteenth century publicist or to a contemporary American financier to be a terrific encroachment on individualism, I defend it, on the contrary, both as the only practicable means of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative. (Keynes 1936, p 188). Where the investment in projects like infrastructure could build a wider marketplace for workers, suppliers, and other stakeholders. In the post-war period, Keynesian ideas gained more popularity in the Western world as the partnerships between the United States and Europe began reconstruction efforts. "The cure lies outside the operations of individuals, by the agency of collective action." (Keynes 1926, p 294). Multilateral government organizations were created, such as the World Bank and the International Monetary Fund (IMF), along with many other United Nations (UN) agencies. President Truman argued for these agencies and their 'expertise' to aid the poorer parts of the world so that they could achieve economic development and better quality of life. The Keynesian model sought to accelerate growth in countries by injecting capital and pursuing these macroeconomic policies.

By 1960, American economist Walt Rostow emerged as a leading force in economic development policy. He argued that the Keynesian model was flawed. "Historical patterns of investment did not, of course, exactly follow these optimum patterns. They were distorted by imperfections of policies of governments" (Rostow 1959, p 2). The Cold War was getting started during this time period and Communism was gaining a foothold in lower-income nations. Rostow wrote his influential book, *The Stages of Economic Growth: A Non-Communist Manifesto*, as rebuttal to the Marxist theory. He determined that there was but one path to development. This path was a linear, evolutionary model consisting of reaching ever increasing modern states. "The form of this generalization is a set of stages of growth, which can be designated as follows: the traditional society; the preconditions for take-off; the take-off; the

drive to maturity; the age of high mass consumption" (Rostow 1960, p 1). His writings served as the basis for modernization theory. By following a Western model, traditional and underdeveloped societies must follow a linear evolution from rural and agriculturally based civilizations to urban, postindustrial, modern societies. The modernization theory has been one of the principal perspectives in the study of human society's development. Both the Keynesian model and modernization theory held steady as the Cold War went on. However, questioning of these ideas and the government's role in economic activities began to surface in the 1970s as many countries experienced persistent stagflation. Theorists began to criticize the slower rates of international progress and wondered what might happen if the economy was left to its own devices and returned to free-market policies. Thus, another economic approach, known as neoclassical or neoliberal theory was generated.

Neoliberal theory sees development as an outcome of economic forces, not strategic state action. The theory stresses the importance of free markets, open economies, and privatization. These beliefs and strategies allow for more freedom of movement of goods and services and opens markets to international trade. In sharp contrast to the Keynesian model, the key to development was to adopt the premise that government was in fact impeding development of a nation. As neoliberal proponent Fredrich Hayek bluntly states, "The chief evil is unlimited government…nobody is qualified to wield unlimited power. (Hayek 2011, p 527). Similarly, Hayek disciple Milton Friedman noted, "The great achievements of civilization have not come from government bureaus. There is no alternative way so far discovered of improving the lot of the ordinary people that can hold a candle to the productive activities that are unleashed by the free-enterprise system." (Friedman, 1979). By 1991, with the demise of Communism in the Soviet Union and market-reforms in China, the neoliberal model spread to other parts of the world through various economic transformations.

Additionally, neoliberalism sought a way for countries to deal with their increasing inability to pay back debts to multilateral organizations and banks. One solution was the application of structural adjustment programs, or SAPs. SAPs are multiple "government-led policies that aim to reduce the role of the state in the management of the national economy" (Willis 2011, p 52). Many countries, most in Latin America and Africa, begrudgingly accepted these policies due to their massive debt and their need for IMF and World Bank loans. In order to receive a loan from the "Washington Consensus'', country governments had to follow a strict ten-point program (Steger & Roy 2010, p 19). The structural adjustment programs typically had some very devastating penalties to many countries, the majority in the developing world. *Theories and Practices of Development* author, Katie Willis, sums up the consequences best stating:

> *"The withdrawing of the state, the opening up of the national economy to foreign investment and currency devaluation did not have the desired effect; rather poverty levels increased as real wages went down, unemployment increased, and the cost of living rose." (Willis 2011, p 52).*

The various and historical development agendas revealed how economic ideologies can underpin government administrations and how their implementation imposes ideals established in the Western world affect non-Western societies. The concepts of what is considered progress and good for society, economic values, and devoted associations to science and technology have built the foundation for conventional development as we know it. Hegemonic and rooted in Western strains of thought, conventional development has had profound implications for many societies around the world.

Of course, this is an extremely brief introduction to the context of conventional development and considers primarily the Western and economic contexts. Development theory has evolved and changed over time to incorporate other types of non-economic and more multidimensional theories as well over time with gender, inequality, cultural and other societal factors being acknowledged. For the sake of this thesis, conventional development is the dominant and economically led system of development as determined by mostly Western forces.

POST-DEVELOPMENT

The development field has promised to achieve a better life for people in Western nations and in other regions of the world, including Africa, Asia, Latin America, and the Caribbean. However, the results have been inconsistent and the means to the end have been debated. Over time, practitioners of development have raised questions of the vision and application of development. New and critical approaches emerged in the 1960s and 1970s as a response to the predominantly economic and Western theories. Many of these approaches found compelling expressions in the conceptual approaches drawing upon Marxism. One of these is known as the neo-Marxist dependency theories. Dependency theory is a broad range of perspectives that emerged as a response to Rostow's work and modernization theory. It reorients the latter theory as global, hegemonic economic forces that dictate development discrepancies between the "traditional" and "modern" societies (Schmidt, 2018). In other words, the modernization model creates an exploitative dependent relationship where the "developed" nations reap the benefits from the "underdeveloped" ones. Where development of the First world is done at the expense of the Third world (Cardoso & Faletto, 1979). Neo-Marxist dependency theorists suggest escaping this unequal and manipulative relationship by breaking off and "de-linking" themselves from the global market, allowing themselves a chance to develop how they want instead of distributing their resources to dominant Western nations and organizations (Gunder Frank 1966). Faletto and Cardoso agreed that in order for the Third World to develop, the Capitalist economic system must be ended. (Cardoso & Faletto, 1979, p 94-95). Neo-Marxist dependency theory did not quite make the revolutions it wanted to break free from the hegemonic, Western model and was quietly pushed aside under neoliberalism. However, the main theoretical insights continue to be valuable for contemporary development studies going forward aimed at resolving inequalities in the Global North and South. By the 1980s and 1990s, amid the height of

the neoliberal/neoclassical development period, activists and scholars began another intellectual movement of critically examining the development project and expanding the concept and patterns of development. There was then a pursuit for "another development, an alternative form of development that was human in scale and form, people-centered and participatory, equitable and inclusive (particularly as regards women and the poor), sustainable in terms of the environment and livelihoods, and, above all, initiated 'from below and within' rather than 'from above and the outside'" (Veltmeyer & Bowles 2017 p 84). Emerging from a wide range of intellectual traditions, some of the most notable in the post development field are Wolfgang Sachs, Arturo Escobar, James Ferguson, Serge Latouche, Gustavo Esteva, Gilbert Rist, and Majid Rahnema.

The premise of post development is a questioning and criticism of the conventional development paradigm. Most argue that the process has been sustained around the world under Eurocentric and Western assumptions with little regard for the social-cultural contexts of non-Western countries and peoples (Escobar 1994, Sachs 1992, Rahnema 1997). Post development theorists support the ability for people and communities to be able to decide the way they want to live without being forced or made to feel "backward". Most oppose the universalism of conventional development, made possible primarily by capitalist and neoliberal models that endorse globalization. Post development theorists argue that these models have hurt societies elsewhere by overpowering and repressing alternative modes of being and understanding. These modes include traditional knowledge, scientific, economic, architectural, cultural, sexual, social, and ecological practices. Critics note how conventional development practices and policies have managed to damage ecosystems and aggravate environmental crises.

While post development fundamentally questions the vision and practice of the conventional development paradigm, theorists also argue for alternatives to development. Envisioning pluralistic realms of being, Escobar takes inspiration from small-scale, grassroots movements, and local societies. He also argues that some projects can help lead the creation of a reimagined society that is more just and more ecologically sustainable. He attempts to connect the criticisms of the post development school of thought and apply them to design theory and practice. In his 2018 book, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*, Escobar details how the conventional development model has largely been a failure of design. He also presents the potential of design to reverse many of these failings and that moving forward, communities can positively "design for transition" to avoid the disastrous effects of traditional development policies and practices. Escobar states, "To nourish design's potential for the transitions, however, requires a significant reorientation of design from the functionalist, rationalistic, and industrial traditions from which it emerged, and within which it still functions with ease, toward a type of rationality and set of practices attuned to the relational dimension of life" (Escobar 2018, p x).

DEVELOPMENT DILEMMAS

The development dilemmas that this thesis deals with concerns the differences and discussions amongst the conventional and post development theories. It seems there is a dilemma surrounding the ontological and epistemological ways of thinking about development, the dualistic worldview against the interrelated views of nature and society, the global versus the local, and a monoculture in contradiction of diversity, Overall, the idea of development is to create and organize humanity in a way that recognizes and supports people's capacities and potentials. The contests within the development field reveal a need to broadly examine and experiment with the concepts and ideas of development, particularly in other spaces and realms.

SUSTAINABILITY

This study looks at two broad themes that have transpired from the debates between conventional and post development. The first is sustainability and sustainable development. Sustainability here is determined to be the capacity to which the planet's biosphere and human civilization can coexist. There are several models that conceptualize sustainability. For this thesis, sustainability is thought of as the interconnection of four distinct areas, the social, economic, cultural, and environmental. Sustainable development most often takes the definition from the 1987 Brundtland Report, also known as *Our Common Future*, as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (1987). Sustainable development since then has aimed to synchronize development projects with the environment. The zenith of the sustainable development view comes with the formulation of the Sustainable Development Goals (SDGs), seventeen interlinked ambitions that serve as a framework for achieving sustainability. Some have argued that the SDGs are nothing more than conventional development in disguise where established and economically based ideas of "growth are being presented as the remedy for environmental problems, not the cause" (Gomez-Baggethun, 2019).

Post development theorists believe that the 'developed' way of life, one that relishes in resource consumption, has resulted in ecological destruction for many places in the world. Thus, there are new approaches to the way sustainable development is being conceived and applied. Some strategies aim at reconsidering aesthetics and the arts to aid in the transformation towards a sustainable society, one that abandons the dominant economic ideology to a realization of environmental responsibility. These ideas are found in two 2017 books. One by social-anthropology professor John Clammer in *The Aesthetics of Development: Art, Culture and Social Transformation* and Melbourne Sustainable Society Institute's research fellow, Samuel Alexander in *Art Against Empire: Toward an Aesthetics of Degrowth.* Both books present the neglect of culture and art in contemporary development debates, articulate examples of how aesthetics, art, architecture, clothing, and performance have manifested in development projects, and how these can contribute towards positive transformational change of sustainability.

Well-being

Well-being is a wide-ranging concept with many definitions and related terms. However, this thesis will take the broad definition as a quality condition of being characterized by health, happiness, and welfare. It is a state of physical, mental, social, and emotional well-being. The development field has been working towards integrating concepts of well-being into policymaking and project implementation. However, the definition and application of well-being has been elusive due to its multidimensionality and the various factors that relate to individual, social, economic, environmental, political health, and security (White 2009, p 13). The multifaceted and dynamic constructs of well-being are difficult to pin down but are a central feature of any conceptual framework that informs sustainable development (White 2009, p 18).

Initially, well-being was measured typically within a single domain, sometimes as subjective well-being or psychological well-being, and is quantified through itemized surveys. Questions like ''Taking all things together, how would you say things are these days?' (Andrews and Withey, 1976). However, surveys like this are difficult to know what the person is really telling when they answer. One person's happiness could be another's misery. Additionally, responses could be influenced by personality, the circumstances right before taking the survey, or people's willingness to answer correctly. By viewing well-being as an interrelated concept, broader and more encompassing measurements of well-being can avoid these struggles and recognize other factors that determine a person's state of being.

Efforts to improve measuring methods of well-being developed with the work of influential scholars, Amartya Sen and Martha Nussbaum. In the 1993 book, *The Quality of Life,* leading economists and philosophers wrote essays about the concept of well-being, how to best achieve and measure it. In Sen's essay, *Capabilities and Well-Being*, he talks about his capabilities approach where a person's functionings and capabilities relate to their living a good life. Sen states,

> *"In this approach, functionings are seen as central to the nature of well-being. The functionings relevant for well-being vary from such elementary ones as escaping morbidity and mortality, being adequately nourished, having mobility, etc., to complex ones such as being happy, achieving self-respect, taking part in the life of the community, appearing in public without shame. The claim is that the functionings make up a person's being, and the evaluation of a person's well-being has to take the form of an assessment of these constituent elements." (Sen 1993, p 37).*

Sen was a vocal opponent to the conventional ways of measuring well-being, seeing the economic approach as misinterpreting well-being to mean being well off. As for his proposal for measuring well-being in an alternative manner, he yields that he has "no magic solution" (Sen 1985, p. 48).

Despite his lack of magic solutions, Sen's approach has formed the theoretical base for the United Nations Development Program's (UNDP) Human Development Index (HDI). The first HDI report was presented in 1990 by

Pakistani economist, Mahbub ul Haq. He was inspired by the movement to change from economic development to more people-centric policies. The Index measures just three variables: life expectancy, years of schooling, and gross national income (GNI) per capita at purchasing power parity. While Sen did not fully advocate measuring well-being in this way, the capabilities he mentions are many and multidimensional, and the three prerequisites are no doubt factors in achieving capabilities to live a good life. Moreover, the HDI has been reviewed and criticized over the years, including the failure to account for more capabilities, the lack of inequity and freedoms measures, and other factors that may impact someone's human well-being.

Martha Nussbaum took Sen's capabilities approach and extended it to formulate her own normative form of the capabilities approach that concentrated on the essentials needed for leading a dignified life. Nussbaum largely agreed with many of Sen's ideas about focusing on a person's capabilities rather than their functions. Capabilities acknowledge that there is a plurality of different views regarding what constitutes human flourishing. Where the two thinkers diverged was in creating a catalog of capabilities to formulate a theory of social justice and well-being for all. Sen was cautious to do so but Nussbaum thought it was necessary. Nussbaum thus identified ten capabilities that she understands as "so central that their removal makes a life not worthy of human dignity" (p. 31). The list labels the following as central to living a life worthy of human dignity: life, bodily health, bodily integrity, the senses, imagination, and thought, emotions, practical reason, affiliation, other species, play, and control over one's environment (Nussbaum, 2011, pp. 33-4).

The theoretical foundations that Sen's capabilities approach, the Human Development Index, and Nussbaum's central capabilities list present have allowed for well-being to be reviewed and analyzed extensively. One approach to well-being that has influenced the analytical framework of this thesis is the work being done at the Center for Development Studies in Bath, England. The Well-being in Developing Countries Research Group has approached well-being through a three-prong method where the material, relational, and subjective dimensions are considered (White 2009, p 10). The material facets are essentially the basic needs such as food, shelter, bodies, and the environment. The relational are social interactions, the structures and institutions in place that govern, and are thought of as the area of action which brings together the material and subjective aspects. Cultural values, ideologies and perceptions make up the subjective (White 2009, p 10). This approach reveals the linkages between the three domains and how well-being emerges from the interrelationships.

Overall, my study considers well-being as a complex facet across many areas, not as a single domain. Well-being is also a process rather than a state with ongoing and changing interactions happening between the three elements. For sustainable development, it is important to understand well-being as an interaction happening within an environment. This environment matters when it comes to cultivating enhanced well-being. Therefore, it is essential to address the design in our built environments as well as our natural environments, so that people can feel well-being across all domains included in Nussbaum's central capabilities. Likewise, Mahbub ul Haq's philosophy of well-

being as a human-centered approach rather than a project-centered one, reflects a better way of promoting and measuring well-being. A project-centered approach reflects conventional and economic-based methods of quantifying and measuring human well-being. Project-centered development attempts to solve complex development issues one at a time, rather than continuously adapting, reviewing, and combining projects based on stakeholder feedback and multidimensional variables. A human-centered approach instead focuses on these feedbacks and variables while directing projects based on enhancing local communities' self-reliance, social justice, and hands-on decision-making. This thesis agrees that a people-centered approach is more likely to build human well-being.

IMMERSIVE ART AND SENSORY THEORIES

The various development theories have many differences in their conception, however, these schools of thought still focus most of their attention to the social, economic, and environmental factors related to human life when in fact humans are much more than these three areas. Humans are spiritual, sensorial, creative, and multidimensional beings. Civilizations occur via the interrelations of all these parts. The development field does not pay sufficient attention to the artistic and sensory aspects of human life. For this thesis I take the theories and thoughts of H. Heinrichs, S. Lukas, and J. Clammer about the immersive, sensory, and artistic relations to development studies and attempt to apply insights from their thinking into this thesis.

Harald Heinrichs argues that sustainable development needs to become more sensory (Heinrichs 2019, p 1). Arguing that the SDGs emphasize cognitive rationality, scientific knowledge, and solution-oriented approaches, Heinrichs states that abstract, aesthetic, and sensory based research can help strengthen a sustainable development agenda (Heinrichs 2021, p 102). He explains how development policymakers can gain deeper and wider insights from the abstract, multidimensional aspects of human life through sensory and arts-based methods. He states: "the multisensorial dimensions of human existence in general as well as in everyday social practices in particular should be more systematically taken into account; and embodied imagination should be stimulated and captured in order to find creative solutions for sustainable development" (Heinrichs 2021, p 93). Embodied imaginations, sensory perception, and other affective characteristics of human behavior subtly influence and are influenced by cultural variations in the natural and built environment. Heinrichs references Donna Haraway's work of hybrids and cyborgs to help understand the "forceful, too often overlooked, undercurrents of social action" brought upon by unnoticed embodied knowledge (Heinrichs 2019, p 8). The non-human dimensions are understood as the biological and physical objects that "not only to "act" but to serve as a carrier of "affection", co-constructing atmospheres and resonance together with sensing humans" (Heinrichs 2019, p 8). In other words, the non-human dimension are also actors in how humans' sense and make meaning around them. For Haraway, the cyborg is both a living reality and a

metaphor (Kull 2001, p 49). The symbol of the cyborg and technology itself are non-human entities, but both have greatly affected how humans conceptualize and create the world around us. Noting that sensory perception is always culturally and socially mediated by political forces and power relationships, the identification and problematization of built atmospheres and sensory-scapes can reveal alternative forms of knowledge and highlight the interrelationship between human and non-human dimensions of the web of life (Heinrichs 2019, p 8).

Author John Clammer states that the largest gap within the development field and the reason behind development's sporadic success is the lack of attention towards culture (Clammer 2017, p 4). He also argues that to achieve a civilization that is fully humane, just, and ecologically responsible requires a deeper engagement of our creative and imaginative resources. He references philosopher and social critic Herbert Marcuse's work on the arts and transformation. Art and immersive art can envision new states of being and offer means of realizing them. Clammer notes that art has the "potential to act as a regenerative force throughout culture (Clammer 2017, p 9). Culture is a wide-ranging and complex area. In Clammer's view, the development world largely regards culture in the view of social structure – gender, class, caste, ethnicity, and other elements of sociology – and not the actual content of culture (Clammer 2017, p 3). The content, he writes,

> *"should include, of course, the arts—visual arts in the form of painting, sculpture, pottery and indigenous architecture, fashion and body decoration, the performing arts of dance, theatre, opera, music, mime, the written arts of poetry and literature and what are often dismissively called the "crafts", but which are in fact art forms of great sophistication—textile arts, pottery, ironwork, wood carving certainly, but also such usually forgotten "minor" arts such as hairdressing, tattooing and, of course, food preparation and presentation. These issues are rarely discussed in relation to development" (Clammer 2017, p 3).*

Samuel Alexander is a proponent of degrowth, a post-development initiative which critiques and attempts to restructure the conventional paradigm of economic growth. He states that art and affective imaginations contribute to the changing of consciousness by 'breaking through the petrified social reality and unshackling human imagination" which leaves behind more room for alternative realities to be accessed and perceived (Alexander 2017, p 18). He contends, "It will be the artist, not the scientist who will contribute most to the human understanding" (Alexander 2017, p 19).

Lastly, Scott Lukas, a sociologist and anthropologist, has conducted several studies on immersive spaces. In his 2016 book, *A Reader in Themed and Immersive Spaces*, Lukas speaks to the many cultural, political, historical, aesthetic, existential, and design contexts of immersive spaces and how they subtly shape our world (Lukas 2016, p 3). Enveloping an individual through multisensory modes, immersive spaces have, "in their foundation, an overarching narrative and ideational foundations that drives the overall context of the environs" and because of this, need to be interpreted and analyzed (Lukas 2016, p 4). Lukas also recognizes how architects and designers are complicit as

agents to the culture industry but often not regarded as such. His work on immersive spaces and the historical, political implications of them is considered widely in this thesis.

These scholars are relevant to my study because of their interests in the less-discussed, alternative realms of development, such as culture, art, and aesthetics. The views on these topics help inform my study in that they seek to recognize the other dimensions that communicate global development topics. My empirical study utilizes multiple case-studies as a way of investigating global development discourses and dilemmas through the lens of immersive arts which are a branch of art and culture. As the methodology chapter and thesis will show, the cases include many observations over several and multiple readings. The numerous readings were perceived by the various analytical frameworks presented above. Some were perceived through more conventional notions of development, others through post-development readings, and some, again, through theories presented by Clammer, Heinrichs, Lukas, and Alexander.

WORLD EXPO PAVILIONS

As noted above, the aim of this thesis is to enhance other perspectives on issues of sustainability and wellbeing but also to expose new ways of seeing regarding conventional and post-development through the lenses of sensory and arts-based theories. To do this, I investigate world expo pavilions. By drawing on the various theories and analytical approaches of conventional development, post development theorists, and others, my aim is to describe, characterize, and analyze case studies of four contemporary World Expo pavilions to identify elements of how they may be communicating and engaging with development dilemmas. I have chosen the sub themes of diversity, sustainability, and wellbeing as topics to illustrate contrasts and similarities. These include ontological and epistemological concerns like dualistic versus interconnected perceptions on nature and society, individualism versus communitarian, and monoculture versus diversity. The analytical and theoretical approaches act in response to the research questions and concern the methodological frames I have chosen. In the next section, I describe my methodology.

2. METHODOLOGY

INTRODUCTION TO MULTIMODAL ANALYSIS

The methodological approach was used to investigate the research questions. To study the areas of immersive art and the ways that they relate to development dilemmas, it was important to find realms in which these two domains

are combined. World expos, expo pavilions, and their exhibits include multiple actors, multiple sectors, multiple levels (national, local), and are multisensory in that they incorporate a combination of the senses of taste, touch, smell, hearing, and sight. They are usually built with creative freedom and spectacle in mind to capture the widest audience. The multisensory, creative, and immersive characteristics that pavilions take advantage of means they are examples of *alternative spatial, political, cultural, social spaces.* They encompass the multidimensionality of humans from all over the world. Many exhibits and pavilions are cultural sensory-scapes that are mediated and shaped by the pluralism in values, interests, and knowledge of the pavilion creators. World expos offer the platform for many various messages to be represented and communicated and have historically paralleled global development trends. For this study, it made sense to use pavilions as the data, or unit of research. Because expo pavilions are platforms of many ways to communicate messages and do so in an immersive way, I chose a methodological approach called multimodal visual discourse analysis.

My study works with two different types of empirical material. One type looks at how art and immersive spaces communicate, express, and critique development theories. The second type is how these art spaces are interacting with development policies and agendas. For purposes of clarifying, I will call the two types of empirical materials as Development I and Development II. Development I is characterized by the type of theory the pavilion is primarily using and/or critiquing. Development II, on the other hand, is defined as the policies, practices, and agendas being promoted within the pavilion.

Multimodality as research typically falls into social semiotics but has risen in interest due to evolutions in technology. New technologies allow for multiple forms of communication and understanding. Semioticians, Gunther Kress, and Theo van Leeuwen are considered to be the foundational researchers for multimodal research. Drawing from the work by Michael Halliday in which he explores how the meaning of words, sounds, and images act as sets of systems and structures that make up language, multimodality includes other sensory and visual design modes of communication. Today, most multimodal research is concerned with digital applications including social media and virtual reality gaming but has also gained ground in the realm of art, sculpture, and architecture.

MULTIMODALITY

Multimodal analysis is the approach of addressing the multitude of different materials and 'meaning resources' people use to create and distribute information by communication. It is a method of discourse analysis that looks at not just how specific, singular modes communicate, but how they interact with one another to generate semiotic meaning. Because this method examines so many things at once, it is an approach that uses multiple methods. Contemporary social reality consists of many ways of communication. Carey Jewitt (2009) describes multimodality as "approaches that understand communication and representation to be more than about language" (p14). In a

world where meaning is made via various routes, it is important for researchers of the social sciences to explore multimodal literacy and present their findings in innovative ways (Jancsary 2016, p26**)**.

Culture and society are formulated through the interactions between people, objects, and environments, consequently, language is only one mode out of many diverse means used to produce meaning and experience (Jancsary, 2016). Traditional discourse studies use language as their primary method of understanding. However, this also means that in their analysis, researchers often focus on the written and spoken verbal text, and ignore, or at least downplay, the importance of other information. The multimodal analysis looks beyond simply looking at a text and makes use of other forms of representation such as images, video, gestures, speech, gaze, and spaces. These representations are examples of modes. When discussing modes, I take Kress's definition of mode which is: 'Mode is a socially shaped and culturally given semiotic resource for making meaning.' (Kress, 2010, p79). Modes are ways in which to communicate across different sensory modalities. Basic sensory modalities are visual, auditory, tactile, taste, temperature, pressure, and smell. Websites, for example, apply visual and textual, and sometimes audio resources to communicate, rather than simply one form, thus it is a multimodal phenomenon. The multimodal analysis is interested in the different ways that many modes interact. Multimodal visual discourse analysis is not about finding and analyzing these modes as isolated but rather about understanding the world as multimodal.

CRITICAL DISCOURSE ANALYSIS

Multimodal analysis, like the social science favorite, critical discourse analysis, is not a method but a research strategy that encompasses many different approaches, models, and methods (Jancsary 2016, p4-5). Critical discourse analysis examines the role of language as a resource of power. It relates to ideology, socio-cultural changes, and draws on the work by Michel Foucault (Bryman, p 690). The multimodal analysis incorporates the Foucauldian tradition by concerning itself with questions such as "what is made visible through practices of art, what is made visible through or obscured in the presentation of an image, and how [do] specific visualities or modes interrelate with specific signifying practices'' (Linnell, 2010, p45). Or put simply, what is being communicated by whom, to whom, and for what purpose? (Zuev, 2016, 183). In studying a multimodal representation, it is important to remember that the modes being used are being used to exploit their maximum potential (Kress, 2010). There is a powerful interest in the form and design of a multimodal object. The combination of modes being utilized can imply versions of social reality that are not neutral about power (Kress, 2010). Additionally, traditional discourse analysis techniques have become increasingly distanced from anything sensory. Most critical discourse studies involve the analysis of transcripts of political speeches or newspapers as well as other public exchanges of ideas and opinions in general, far removed from their visual or sensory context (van Leeuwen, 2004, p15). Critical discourse tends to analyze and question these kinds of texts to uncover how things are, why they are like that, and how they could be

different (Wodak 2011, p40). Like development studies, this approach sees social reality as a human achievement that is and could be created in different ways. Yet, this reality is also constructed by its creators, meaning that interests and certain 'truths' can govern how that social domain goes forward (Jancsary 2016, p5). This type of analysis uncovers patterns of dominance and potential alternative realities. When looking at the cultural domain of World Expos, we see various ways of the same 'theme' being expressed in different modes via pavilions. How these pavilions are communicating this theme is largely dependent on the resources that are available and appropriate for that space. It is my view that incorporating research methods that include sensory experiences and different modes of expression, can lead to new knowledge that fuses together thinking and feeling.

PAVILIONS AS AN OBJECT OF ANALYSIS

A thesis that links development theories and multimodality is not one I am aware has been previously undertaken or addressed. To further understand how development theories are being expressed by multimodal means, requires looking at multimodal arenas. One such arena is global mega-events. While most studies on global mega-events typically turn to the Olympics, other global mega-events still exist, such as the World Expos. Events are spaces that are consumed by people through multisensory embodied experiences of being at an event and relying on all our senses—visual, auditory, tactile, taste, and smell (Zuev 2016, p180). Events as large as the World Expos are carefully planned, organized, and performed to leave a lasting impression on the visitor (Zuev 2016, p180). Likewise, the pavilions within the World Expo itself are constructed and aimed at imprinting something on the viewer.

Architecture is an artistic practice that centers on space and substance. It is the interface between technology, art, and socio-cultural settings (Wood, 2017). When we think of architecture, we think of buildings. Buildings are essentially giant sculptures built on ideas around complex spatial and social situations that are always changing (Dyrssen 2011, p224). For social science researchers, it might seem weird to study buildings when your objective revolves around theory. However, buildings are inescapably social. "There's not much that more powerful places, joins, separates and patterns people, and relations between people than the built spaces we live, work and learn in" (Wood, 2017). Architecture is built around theories and ideas about how people behave and what their needs are (Wood, 2017). A building is designed based on a hypothesis about how people might respond to a building and the conditions it creates (Dyrssen 2011, p226). These ideas are taught in architectural schooling and created through past studies of structure types and their layouts as well as empirical research into how people use buildings. And architects develop their own theories as well, from their experience of the world and how people live it (Dyrssen 2011, p231).

Therefore, buildings are not passive entities (Wood, 2017). They are highly social and multimodal, speaking of how societies are made (Dyrssen 2011, p233). Pavilions are special buildings in that their creation is not always

predominantly focused on practicalities but are more imaginative and flexible in their construction and design. This creativity has historically been celebrated by architects and World Expo viewers alike. Pavilions explore the possible and the future through invention and intervention. They can proclaim and reaffirm ideas about how society could and should be constructed (Dyrssen 2011, p233). Buildings then, and in this case, World Expo pavilions, should be considered worldmaking forces. They are sociocultural and political manifestations that occur on personal, local, national, and global levels (Zuev 2016, p183). The pavilions' artistic and temporal characteristics can challenge conventional understandings of architecture and the possibilities for the future of society. Rather than something stable this object of analysis emphasizes space as something constantly changing, relational, and diverse but still a social and multi-sensorial experience (Dyrssen 2011, p224). Therefore, pavilions offer themselves as unique objects of analysis that represent development dilemmas.

Relevance for the study / Why use this approach?

The methodological approach I used for this study does not take the most standard approach to the study topic. Other methods were considered but ultimately rejected based on my study's objectives. The study is concerned with the ongoing and evolving tensions between mainstream and post-development discourse and is interested in how to manage or accomplish a wide, diverse, sometimes conflicting range of stakeholders and ideologies in the realm of well-being and sustainable development. Along with increasing calls for finding alternative solutions and creative ways of dealing with conceptual global issues such as well-being and sustainability, there is limited use of new and creative research methods in social science and global development studies.

As an art-based research method

The relationship between the arts and social science is not fully understood as the impacts of arts-based approaches are often overlooked. It is my view that multimodal analysis is also a unique form of arts-based research. Arts-based research (ABR) is the application of artistic approaches to qualitative inquiry (Dyrssen 2011, p223). ABR is an umbrella term for a broader conceptual foundation that uses art "to explore, understand, represent and even challenge human action and experience" (Savin-Baden & Wimpenny, 2014, p1). ABR often challenges ways of conducting research, and the fundamental nature and purpose of research itself (Savin-Baden & Major, 2013). The tensions within global development are a symptom of a highly complicated history of complex socio-cultural relations. By utilizing a creative approach, in this case, multimodal analysis, can help better achieve various multidimensional development goals in critical and conceptual concepts such as well-being and sustainability. Through artistic research, we can accept that most global problems are not 'pure', but often contradictory and vague,

impossible to regulate, open for interaction, and where logical thinking is naturally intertwined with associative and intuitive conceptualization (Dyrssen 2011, p225). One of the advantages of multimodal data, despite its fundamental polysemic nature, is its capacity to communicate, relate, and convey information across languages and cultures (Pernecky & Rakić 2019, p 182). The possibilities for multimodal communication and representation break the hegemony of epistemological and methodological purism grounded in Western thought, allowing for new discoveries, conclusions, questions, and meaning (Zuev 2016, p182). Drawing attention to complexity, raising more questions than answers, and even generating more uncertainties than certainties are specific characteristics of art-based research and multimodal analysis (Wang 2017, p11).

SOME REMARKS ON MULTIMODAL ANALYSIS

Unsurprisingly, there is much debate about the nature of the emerging field of multimodal analysis (Jewitt, 2009c). Both multimodal analysis and arts-based research are relatively new forms of research and thus require some justification and clarification. The multimodal analysis is not a method but rather a tool in the greater methodological toolbox. There is not a clearly defined standard methodology for MDA yet, although some are beginning to emerge (Pirini, 2017). The production of frameworks within multimodal discourse analysis is still underway and is indicative of intellectual diversity. For some scholars, this is a cause of apprehension, and they attempt to unify multimodality. But for others it is advantageous, especially for a research domain that offers applications to so many areas of social life (Pirini, 2017). My study decidedly takes the position of the latter. Rather than dismiss this approach, it is my hope that my study can offer but only one illustration of how MDA research may be conducted and systemized. Such a methodological approach is highly flexible, adaptable, and applicable to many types of data and can excel in single case studies and very small samples for its in-depth approach (Salmons, 2018). Experiential studies such as this can be used to capture the modern social realities that are increasingly "constructed, mediated, reproduced and challenged by a multitude of discursive modes" (Salmons, 2018). Hence, multimodal literacy will become ever more necessary for researchers of the social sciences in the future. Nonetheless, the use of this type of research approach requires clarification about its challenges and limitations.

LIMITATIONS

The biggest challenge is the scope. Multimodal analysis requires several pieces, or modes to examine. In addition, the analysis examines the interaction between these pieces, opening numerous possibilities and pathways to study further (MacKay 2013, p131). With each path, more questions arise and for reasons of space and time, my study could not investigate each. The second limitation is that multimodality is broadly defined and can mean very

different things, requiring specific analytical tools and expertise in areas that I do not have. As Jancsary (2016) states, "multimodal research strains researchers' abilities to deal with a variety of modes at the same time, all of which require particular, and potentially very divergent, sets of analytical skills" (p 26). To analyze modes of sound requires techniques very distinctive than that of analyzing visual modes or text. In addition, different media sometimes require different theoretical approaches. Analyzing architecture, for example, draws upon insights from art and design studies. The limitations of scope and skill sets are a challenge to an individual study but with collaboration, these disadvantages may be turned into assets.

Another challenge in using an approach such as this is triangulation (Phillips 2012, p17). In order to make sense of the modes and their interaction while keeping the focus situated on the analytical framework, it is important to complement this approach with others. Regarding this study, it would have been fruitful to have been able to attend a World Expo event in person and conduct interviews with participants or to have first-hand observations of visitors in each pavilion. Doing so would have increased the contextual knowledge and provided further insights that support or reject an outside interpretation (Phillips 2012, p19). Due to the 2020 Covid-19 pandemic, field work and this approach to triangulation was not possible.

Finally, another limitation exists when it comes to elucidation. This form of analysis can only offer impressionistic insights into the construction of meaning. There is no single answer to the analysis and no guarantee that other researchers will uncover the same results (Wang, 2017, p13). Also, meanings can change over time. Consequently, the realm of multimodal analysis is relatively still in infancy and lacks standardized methods. Some academic knowledge producers may see the lack of standardization as a limitation. However, I consider these sorts of analysis as able to bring unique insight to the social sciences, especially as there are movements towards decolonizing research and incorporating new voices and epistemologies to academia. Knowledge creation does not usually proceed in a linear way, therefore having approaches that enable more than one reading can add to research in general. One way to settle contested readings of findings is to look again at the example and try to justify one's 'reading' in detail in relation to the actual practices and forms of signification used, and what meanings they seem to be producing (Hall 1997, p9).

REFLEXIVITY

The analysis of any representational form, be it text or image, is "a constructive process" where "meaning is generated in the interaction of the reader with the material" (Penn 2000, p231). Hence this method is interactive: the researcher here acts on the image just as the image acts on him/her (Hook 2013, p365). Similarly, pavilions need their viewers to complete them; it is only via the imaginative investment of an audience that an effective circuit of understanding is achieved (Hook 2013, p362). This poses an obvious qualification for multimodal analysis: our

interpretative engagement must remain open-ended and has no single destination. Just as words do, buildings act on us by informing, ordering, warning, inspiring, persuading, or deterring. (Hook 2013, p358).

To demonstrate how the pavilion data is meaningful and maintain the depth and richness of the findings, I attempt to present the data with a very detailed contextual and methodological description. It is also to exemplify the researchers' interpretation of the data as findings. Since there is no "right" way to read a set of multimodal elements, I outline my methodological procedures below. Comprising several devices involving critical discourse analysis, image analysis, and multimodal methods, the procedures I outline here are not meant to be followed prescriptively; they merely provide the researcher with a matrix of sorts (Hook 2013, p366). The researcher and reader can then begin their own explorative analysis of images using this matrix.

METHODS OF DATA COLLECTION AND ANALYSIS

THE USE OF DOCUMENTS, IMAGES, ARCHIVAL DATA

Data is the material that you collect for the purposes of answering your research question. Seeking to draw on more than one perspective, this research also seeks to find these perspectives through more than one method to collect data. This is a common occurrence in qualitative research. By mixing other strategies and types of data, we can better understand experiences from more perspectives. Or we can more fully understand the culture and environment of a community or organization (Salmons, 2018). My research questions were interested in seeing how immersive art spaces approach and communicate various development theories and objectives over time, with emphasis on the last 20 years, particularly looking at Development I and the theories being conveyed in the space. My data consisted of data in the form of texts, images, and contexts of pavilions that were erected at world expos in the last 20 years. The second research question was aimed more at finding instances of sustainability and well-being so initial data collection focused on finding pavilions that expressed these ideas. Expressions of these ideas were found from text sources such as official guidebook descriptions, interviews with the architects and creators, and other academic studies done on expo pavilions. The data collected was sourced by both primary and secondary sources from Expo archives of texts and images. Serving as representations of the time they were created, primary sources included original works of art (official logos, posters), official documents and records of the events (programs, websites, photographs, pamphlets), participant blogs, and newspaper articles from the time (Bryman, 2016). Secondary sources of this study included books, articles, reviews, synopses, and descriptions of primary sources. Data was primarily sourced via online archives with permission. One online archive, Worldfairs.info, provided the foundation of initial material in which to explore and delimit the study.

DATA COLLECTION STRATEGY

My thesis aim was not to oversimplify a phenomenon against an entire population but to understand better how artistic expression might be used to communicate wider global development ambitions in the past, present, and future. This is where Development II is explored in the pavilions. I selected data that demonstrates a variety of messages. My data size had to be kept to a relative minimum due to the amount of analysis that each pavilion took. Because there are many pavilions constructed at each expo, it was important to find pavilion cases that represented an unusual or atypical example that required more in-depth analysis, or cases that challenged and offered counterpoints to prevailing assumptions. In the paradigm of development theories, there are plenty of prevailing assumptions of how society should be. My study was interested in the ways that art can create alternative spaces for the complex realities that is development, so it was important to have cases that take contrarian stances to build new knowledge and understanding. Additionally, pavilions that appear repeatedly in articles on the internet were taken into consideration. Their popularity as representations was considered pertinent, whether based on their visual appeal as art or as to the impact of their message of expo theme.

Before selecting the pavilions, I spent roughly four months (September to December 2020) filtering through all the pavilions I could of the most recent expos, trying to get, first, an overview of what issues were salient in any particular expo (MacKay 2013, p130). There are four types of international exhibition events as defined by the Bureau of International Exhibitions. World Expos are the largest and most extravagant. They run every five years for a typical duration of 6 months. Shorter and more focused international exhibitions are known as Specialized Expos and happen in-between World Expos. There are also regular international horticultural expositions and the semi-regular Milan Triennial, international art, and design-focused exhibitions. (BIE, n.d.). In this research project, the observed population are expo pavilions and were selected from the last three world exhibitions, Aichi, Japan in 2005, Shanghai, China in 2010, and Milan, Italy in 2015.

SAMPLING APPROACH / SELECTION OF CASES

This process consisted of going through a lengthy initial phase of first impressions of pavilions from each expo. This phase was done visually and utilized a basic four-step process based on image-analysis techniques by Stefan Müller-Doohm and Barry Goldstein (Goldstein 2007, p79; Phillips 2012, p10). This first impression analysis offers a guideline for dealing with a large corpus of data and the selection of cases (Philips 2012, p11).

1) First look: observing the data, and noting initial emotive responses using Goldstein's "first eye-brain impressions" (Goldstein 2007, p79).

2) Structuring the pavilion by means of applying specific questions to the data (How does my research questions fit this pavilion? Does it? In what way? How does sustainability fit in here? Well-being?)

3) Making an inventory or log of several images and finding corresponding texts (official documents talking specifically about the pavilion, interviews with architects, website articles, etc.)

This initial process was highly interactive. I also looked for surprising or prominent features, which appeared to be innovative or in some way challenging to norms specific to this genre that was emerging, and to more general norms which I believe pertain to all pavilions. I identified archetypical pavilions and then tried to contrast these with ones that fell out with the norm. This process offered the service of making sense of images and whittling down the sample; they are not in and of themselves adequate for interpretative analysis but rather only one way of interpreting the elements (Hook 2013, p366). This is because there is more than one way to read a set of sensory elements. The methods I used are more of a template to help guide rather than a strict prescriptive set of methods to follow. Pavilions are an incredibly rich resource and I do not attempt a complete survey of the themes which appear. I was able to delimit my selection by only discussing that work that touches upon, or illuminates in some way, the pairing of sustainability, well-being, and multimodality (MacKay 2013, p123). This sampling approach is known as purposeful sampling. Purposeful sampling, in qualitative research, is referred to as a practice for identifying and selecting information-rich cases to make the most effective use of resources (Patton, 2002). This type of sampling might also seek out the selection of cases of maximum variation. Maximum variation observes the unique or diverse variations that resulted from adapting to diverse conditions.

DATA ANALYSIS

I make the conscious choice to focus on the interrelationship of two distinct modes: the verbal and the visual. I made this decision because I cannot fully experience the pavilions as they are, in their full sensorial capacity, I can only do so through the verbal and visual dimensions on hand. While all available modes are relevant to examine, the area of verbal and visual research has earned the most scholarly attention and provides the richest pool of concrete examples to replicate (Jancsary 2016, p7). The following analytical process was based on a multimodal chapter by Dennis Jancsary, Markus Höllerer, and Renate Meyer in *Methods of Critical Discourse Studies*. This chapter provided insight into how to conduct a multimodal analysis that uses primarily text and images. Suggested as a type of 'template' that could be adapted to specific research questions and materials at hand, it proposes a five-step process in which to analyze and interpret a multimodal text (Jancsary 2016, p12). Texts used in social research come typically as pieces of writing. However, in this context, I determine a text as an object whose meaning and significance you want to interpret in-depth, in this case, World Expo pavilions. Each step in the analysis process comes with a set of guiding questions that can be used to elicit deeper and latent meanings (Jancsary, 2016). The five-step process outlined is considered flexible, and can be extended or scaled-down, depending on the research objectives and

different modes of discourse used. The five-step analytical process is taken from the Jancsary chapter and is outlined below (Jancsary 2016, p 14-22).

Step 1: Capture the manifest content – What are the features? (First coding)

- What is the particular 'vocabulary' of the space?

- What kind of rhetorical and stylistic techniques and strategies are used?

- How can the 'design' and 'layout' of the overall space be described?

Step 2: Characterize the genre – Who created the space?

- What is the spatiotemporal and sociocultural context of the space?

- Who is/are the producer/s of a space, and who is the audience?

- What is the purpose of the space genre? How institutionalized is the text space?

- What are the particular genre characteristics with regard to multimodality?

Step 3: Reconstruct latent elements – What are the broader structures of meaning that underlie the space? (Second coding)

- What parts or 'domains' of social reality are featured within the space?

- How can the hypothetical social context be characterized in which the space 'makes sense'?

- What expected and unexpected 'absences' can be found in the space (e.g., in the sense of unrealized alternatives)?

Step 4: Composition –How are the modes linked to each other?

- How do verbal and visual elements relate to each other?

- What are the particular 'roles' and 'functions' of the verbal and the visual within the space?

- What integrated 'messages' or 'narratives' are created through this composition?

Step 5: Conclusions and critical evaluation – Connect the patterns and findings to the theory.

- What does the analysis tell us about broader social issues and the particular institutional and cultural context in which the space is embedded?

- How can we describe the different traces of interest and power that we find within presences and absences?

- How do the different modes and their overall composition reinforce, challenge, or conceal such power?

The initial approach that I used in the sampling phase of the study gave me many of the preliminary components for conducting a multimodal study. In the five-step process above, step one calls for the first coding of the features of the text (pavilion). Since I was working from an image of a building rather than being in it, I used image-analysis

methods to search for the compositional and formal elements of the pavilion. Elements to note down were the sensory elements such as color, lighting, and texture as well as structural elements like the materials used, size, perspective, and depth. Additionally, dynamic, and emerging elements like the orientation of the building, gaze, point of tension, directionality, and focal point were also noted (Hook 2013, p360). The main idea here is to familiarize the researcher to the overall space and note the most dominant features.

Step two is about the creator of the space. Buildings, and thus pavilions, are ideologically active through the work of their creators and publishers. One way of linking attention to the ideological objectives of images to their more localized functionality is by identifying their particular intention (Hook 2013, p360). Therefore, I have taken many of the interviews with the architects and builders into consideration. Most of the work done for step two was not done from a visual perspective but from analyzing the verbal text from these interviews as well as official guidebook documents advertising the pavilions. Creators of a text, or a building/space in this study, often employ particular 'genre rules' as a basis of their creation. And by examining the intentions of the creator can help researchers understand what kind of language is being spoken and what is meant to be understood by the viewer. (Jancsary 2016, p13-14). Take for example a horror film and a children's book. These texts each belong to a different 'genre' and therefore take on certain rules applicable to that genre. World Expo pavilions involve various types of pavilions as well as kinds of participants, each with their own set of institutional and genre 'rules'. This makes this step important to conduct.

Step three involved looking into the larger context of the Expo and its themes. I read about the host country's bid for the Expo as well as the social, economic, political environment around the time of the expo. After some understanding about these elements, I attempted to apply the pavilion to these understandings to connect the building's features and components to the broader themes of the time and of the Expo. This step also allows the researcher to attempt to transcend the outwardly obvious layer and understand the latent meanings. This part of the analysis looks to reconstruct the wider social and discursive contexts to the individual elements that the pavilions refer to (Jancsary 2016, p 20).

Step four, in my view, is essentially another round of the previous Goldstein/Müller-Doohm approach but this time, instead of looking at the individual aspects of the pavilion, I try to understand how the multimodal aspects are integrated and relating with each other. Analysis looks at if some modes are more dominant than others and where the focus of attention is laid. Again, multimodal spaces and texts rarely tell one single story. As Jancsary explains, 'their multivocality is a central asset, connecting them to a multiplicity of divergent narratives at the level of the overall discourse' (p 22.) By this time in the process, I had some time in between my first initial reactions and had an abundance of contextual information gathered on the pavilions, their creators, and the time and space they were situated in. Therefore, it was more a reconsideration of the pavilion under these observations. I noted down any changes in my initial thoughts and any new reactions and explored these further.

Finally, step five was conducted to further apply development theories into the analysis. I attempted to see the data from the viewpoint of the contesting theories of mainstream development and post-development schools of thought. It is here that I look at each pavilion through the lens of Development I. I made out any distinguishing ideas from the texts and from the way the pavilion was created to consider these theories and apply them to larger contexts. This final step is meant to organize the patterns and findings from all the previous steps to find any significance or meaning. This stage is more of a critical analysis and is concerned with questions of interest, power, and development discourse being communicated through World Expo pavilions.

ADDITIONAL FORMS OF TEXTUAL ANALYSIS USED

Because this study falls into qualitative research, my analysis was based on language, images, and observations. This involved utilizing other forms of textual analysis as well. Specific methods included categorizing and discussing the meaning of words, phrases, and sentences. This is known as content analysis. Thematic analysis was used in that identification of broad themes and patterns were noted in the initial phase of sampling. Lastly, components of discourse analysis were engaged when studying the communication and meaning of expo pavilions in relation to the wider social context. The forementioned five-step multimodal analysis above encompasses several of the common fundamentals of qualitative analysis. The approach here does not consider in depth any one theoretical perspective, but it is far from a-theoretical. It borrows from discourse analysis, content analysis, traditional art history, and more. (Hook 2013, p356). This method is more about the questions that we can ask when approaching unique multimodal texts and spaces and less about the answers we give them.

FINAL REMARKS

The five-step process I used above helped me view each pavilion through a different lens throughout the analysis portion of the study. I believe this compartmentalized approach allowed me to think more deeply about the importance and intentions behind art, immersive space, development dilemmas, and how they are subtly interconnected to other realms of being. It also enabled me to organize my case study discussions as they follow a similar organizational structure. First by explaining the basic and fundamental features of the pavilion and gradually going deeper into development ideas.

I think it is important to mention that this study and the methods used were conducted through a great deal of absence. First, and most obvious, is primarily due to the pandemic. This multimodal study would have been much different had fieldwork been conducted on site and pavilions could be physically sensed by the researcher. The other

absence felt by the study and this methodological approach is that the overwhelming majority of world expo pavilions are temporary structures. They are not static, nor permanent. I think it has been quite interesting and reaffirming that I was able to conduct this study through these large deficiencies and still be able to gain a richness of data. This speaks to the legacies that world expos leave behind as well as how multisensory spaces can be experiences that are felt long after they are left. Regardless of World Expos being temporal events with a limited time span, there are still ample amounts of diverse materials that can be accessed and studied.

3. WORLD EXPOSITIONS & PAVILIONS

EARTH TOWER AT AICHI EXPO 2005

HISTORY

In 1995, the Japanese government announced its interest in hosting the 2005 World Expo to the Bureau of International Expositions (BIE). Another city, Calgary, in Canada also bid for the opportunity to host the 2005 expo. Some of the traditional and primary objectives of hosting an expo is to bring attention and investment to civic projects as well as boost national and local pride. The area of Aichi in Japan is home to many manufacturing companies, including the Toyota Motor Corporation (Schrenk & Jensen, 2014, pp 558). Also in 1995, Toyota showcased the world's first standard-production hybrid-electric vehicle, the Prius (Biddle, 2014). The 2005 expo bid offered a way to attract international and local support for manufacturing companies while also achieving underlying development goals in the area (Heller, 2008). With a vote of 52-27 beating out Calgary, the 2005 World Expo in the Aichi prefecture of Japan was formally approved in 1997 (CBC News, 2009). That same year, Japan was host and signatory of the 1997 Kyoto Protocol, an international treaty that commits to the reduction of greenhouse gas emissions. The treaty was effective in February 2005, the same year as the Expo. While not officially supporting each other, the coincidences of the timing of the Expo with its greater contextual underpinnings is not lost.

"NATURE'S WISDOM" THEME

The theme of the 2005 expo developed from several initiatives. Japan was intent on adapting its economic growth while also becoming a national leader in the environmentalist movement. The social reality in Japan during the time was a country that was experiencing mild economic recovery from a period of deep economic stagnation from 1991-2000. The 'Lost Decade' as it is called, came after the country's exceptional economic growth following post World War II. Warnings of similar situations occurring in other developed countries loomed (Bullard, 2010, pp 339). The official Aichi Expo website explains more on the choice of the theme,"

> *"Though pleased with our industrial growth and economic development, we realize that this was not the sum of our aspirations. We had hoped to fuse traditional wisdom with modern science and technology to create a better world where humankind and nature can co-exist in harmony. This theme was chosen in regret at the mistakes of the past and in determination to make this dream come true." (Japan Association for the 2005 World Exposition, n.d, "Theme and Sub Themes").*

During the time of bidding for hosting the expo, local environmental groups in Aichi expressed opposition to further development to the area and supported the bid going to Canada to save the natural landscape (JDP Econ, n.d). The regional opposition was another reason for encouraging a theme based on environmental issues as local support was essential for success. Another concern was the recurring issue of sustainability of expo sites. Expo fairgrounds and pavilions were increasingly designed, constructed with little to no thought of sustainability or a post-Expo life,

causing situations of dilapidation and areas of blight in host communities. For example, the most recent previous expos sites of Seville in 1992 and Hannover in 2000, despite operating under various environmental themes during their lifespan, were left in states of ruin and decay (Schrenk & Jensen, 2014, pp 556). To avoid this issue, the 2005 World Exposition Committee proposed a six-part "Ecological Declaration" in 2003 which entailed implementing a comprehensive environmental impact assessment of the proposed expo site before, during, and after the expo. (Japan Association for the 2005 World Exposition, n.d, "Ecological Declaration"). During the initial assessment period, the fairgrounds area proved to be home to several endangered hawks. This discovery led organizers to finalize the theme of "Nature's Wisdom", scale back initial plans, and re-design the fair to "protect as much of the site's forest and other natural features as possible by focusing most of the new construction on parts of the fairgrounds that had already seen development" (Heller, 2008). The goal of the fair was to act as a model for future expos and industry.

The theme, Nature's Wisdom, was radically executed throughout the Expo. The discovery of the threatened birds enabled the organizers to redesign the expo site via raised platforms and walkways to minimize damage to the land below (Nadis, 2007 pp 576). Organizers also decided to incorporate prefabricated and standardized pavilions rather than continue the modern tradition of countries designing and constructing their own. This allowed for the easy assembly and deconstruction of pavilions to reduce waste of building materials (Schrenk & Jensen, 2014, pp 558). There was also extensive planning surrounding the subtheme of "Reduce, Reuse, Recycle" throughout the expo. Each garbage station had up to 17 separate bins in which to recycle items such as chopsticks, plastic, paper items, unused cooking oil, and even leftover drinking water (Schrenk & Jensen, 2014, pp 559).

The participation from citizens was explicitly promoted. Traditional world expos could be said to be somewhat of passive environments. Where the main offering is an overwhelming abundance of people, pavilions, and exhibits each attempting to promote and persuade towards a usually vague interpretation of the overall theme of the expo, usually in the form of some economic and consumerist vision. Generally, visitors wander through the fair rather aimlessly through displays that detail vague visions of the future "while training fairgoers to assume the limited role of expert consumers" (Robertson, 1992, pp 31). Expo 2005 firmly rejects this idea by promoting the role of citizens and encouraging them to think about the power they possess. Explained in a message on their website, "The role of citizens is not merely a passive one of plugging the gaps left by the market and government; citizens have within them the latent potential to respond flexibly to the global issues and needs of society in the twenty-first century in ways that differ from the conceptions of existing frameworks" (Japan Association for the 2005 World Exposition, n.d, "Placing Importance on Citizen Participation"). The expo stresses that the variety in perspectives brought to events such as world expos are a unique opportunity to develop sustainable solutions based on the theme.

Surrounded by forest, the fairground was lined with pathways guiding visitors away from the crowds and to the sights and sounds of nature. The encouragement to engage with nature was evident throughout the expo. Organizers felt it was equally important not only to highlight the importance of environmental issues but also the significance

of the human to nature relationship (Japan Association for the 2005 World Exposition, n.d, "Message from Japan: Nature's Wisdom"). The expo's theme was fundamental, and the expo offered several programs and strategies that allowed for this relationship to be explored and renewed. One such Expo pavilion is unique in the way it exemplifies these many goals and visions of the expo.

EARTH TOWER

Most of the expo 2005 pavilions were of modular design to avoid unnecessary waste and high transportation costs of materials being sent from faraway places (Tsunoda et al, 2007, p 185-186). However, there were some pavilions that were individualized, many of these being what is known as "thematic pavilions". These are typically used to communicate the wider intentions of the expo. One thematic pavilion, known as the Earth Tower, served as the summary space for the entire expo and physical representation of its theme, *Natures Wisdom* (Bureau International des Expositions., n.d.). The building itself occupied some of the most vertical real estate of the expo and was located at the center of the expo area. At 47 meters high, the tower was one of the tallest buildings at the Expo. The spatial offering suggests that the tower was of high importance. While the tower rests in the 'Japan Zone' of the fair, the whole of the Earth and its citizens were represented.

Earth Tower was an immersive pavilion with an assortment of ways to interact. The first being through vision and light. The exterior of the pavilion is blocky, brown, and rather dull. However, when visitors entered the space, they were welcomed "into a fantasy and mystical world created by the sun's rays". Giant kaleidoscopic spherical images about 40 meters in diameter were shaped by the sunlight by way of three discs containing colored oils that hit several mirrored walls. The second immersive feature was sound. "Pleasant tones echo through the tower. These were original melodies created by the wind through a series of 'Sound Forms', a musical instrument that had its own musical range (Japan Association for the 2005 World Exposition, 2005). The Sound Forms played an infinite number of harmonies according to the fantasy of the wind, to relax visitors". Lastly, the building utilized an interactive aqua wall. Formed by water flowing down from the summit, the tower's exterior was "pleasantly enveloped by the Earth's most crucial resource" (Japan Association for the 2005 World Exposition, 2005). The facade of the Earth Tower comprised an uneven surface so that the structure "blows up the water, creating a variety of random patterns". Visitors were encouraged to touch and interact with the grandiose fountain as the expo fell during the summer months and temperatures were high.
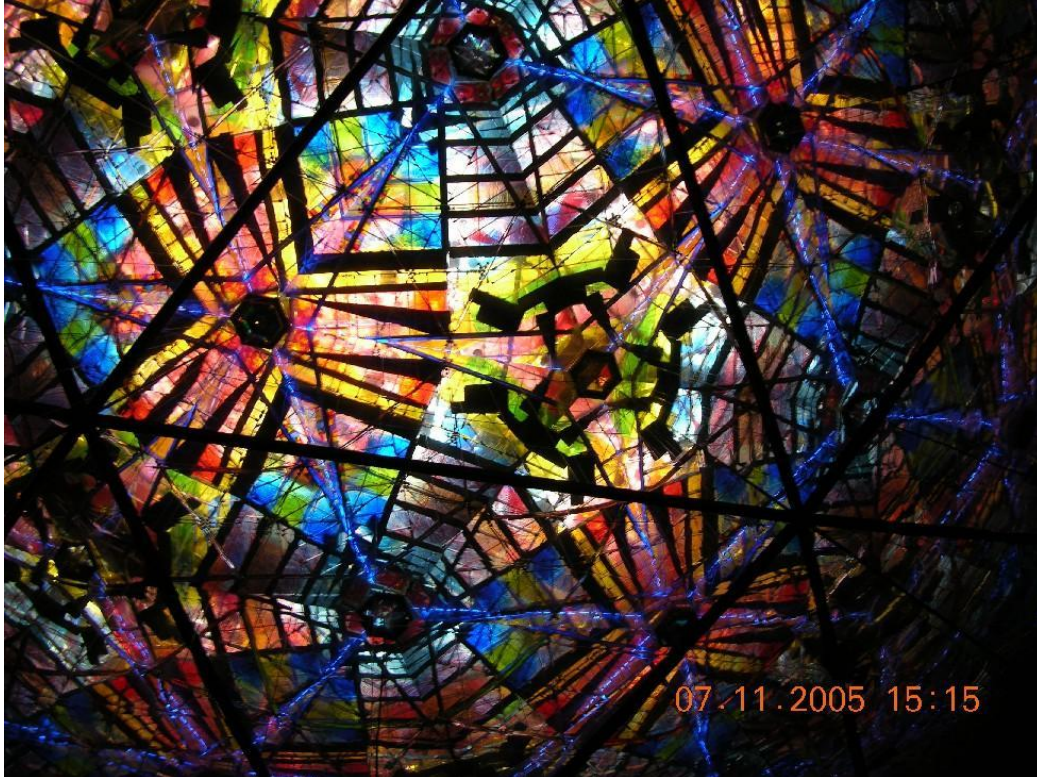
(top) Earth Tower Kaleidoscope (2005) EXPO 2005 AICHI, JAPAN. Photo by Svasti Asta.
Retrieved from: https://www.perunica.ru/nauka/9817-kalejdoskop-istorija-neprostoj-igrushki.html.

PLURALITY AND THE WORLD'S LARGEST KALEIDOSCOPE

The Earth Tower was highlighted as the world's largest kaleidoscope, complete with a Guinness Book of World Records plaque on one of its interior walls. This artistic feature seemed to be symbolic of the idea of plurality and diversity, common in post-development discourse. As the official expo 2005 website states, "Nature is a global kaleidoscope. People interact with nature in countless ways, and these interactions generate immense global diversity in lifestyles, cultural traditions, and traditional and modern arts. These various cultural assets do not just coexist in harmony; they continuously blend and fuse together to give birth to a totally new product" (Japan Association for the 2005 World Exposition, n.d, "Message from Japan: Nature's Wisdom"). The way kaleidoscopes operate is with reflection. In a material sense, with mirrors, but also in an abstract sense of perception and contemplation. As rotation occurs, reflections continuously change with an endless variety of patterns. The variety of colorful images displayed by the kaleidoscope in the Earth Tower were representative of the diversity of humanity and nature as well as the infinite possibilities of living. Post development theory pays attention to these various types of diversity and presents it as an asset that is being undermined by current development initiatives. As Sachs (2010) explains, "development has resulted in a tremendous loss of diversity. The simplification of architecture, clothing, and daily objects assaults the eye...the standardization of dreams and desires occurs deep down in the subconscious of societies. The market, state, and science have been the great universalizing powers. The spread of

monoculture has eroded viable alternatives and have dangerously crippled our capacity to meet a different future with creative responses" (Sachs 2010, p xviii). Similarly, Escobar (1995) highlights the importance of difference as a transformative force (Escobar 1995, p 226). In fact, diversity is thought of as a primary source for resilience and prosperity. The Earth Tower, as a symbol of the entire expo, presents this same message*:*

> *"We hope for the creation of a new global society allowing the multitude of cultures and civilizations to coexist together. The theme of Nature's Wisdom-will be the vertical thread in this loom and rich and varied exchange-a Grand Intercultural Symphony- the horizontal. When woven together, they will produce a soft, rich and beautiful fabric. Perhaps the fabric for a wonderful new global society." (Japan Association for the 2005 World Exposition, n.d, "Expo 2005 Message").*

There are many applications of diverse ways of living and being found in the global North and global South. What is common in these movements is the 'search for less material notions of prosperity that make room for dimensions of self-reliance, community, art, and spirituality' (Sachs 2010, p xiii). In other words, meaning is made from sources beyond money and the logic of growth. These movements have allowed for other convictions of human well-being and communities that are more resilient to resource crises and economic shocks (Sachs, 2010, p xiii). Indeed, the Earth Tower's kaleidoscope could be indicative of post-development beliefs that diversity of ideas is the framework necessary for tackling today's global challenges. Such plurality maintains "the forms of understanding, creating, and coping that the human species has managed to generate" (Marglin, 1990, pp. 16–17). Post development theorists reject the one-size-fits-all development scheme and instead promote a "global tapestry of alternatives'' (Kothari et al, 2019, pp 339). The conflicting visuals of the interior and exterior could be inferring a double duty of the building's intentions. In conjunction with the *Nature's Wisdom* theme, the muted and dark exterior of the Earth Tower could suggest a link to the historic past of the planet and society. A history that began as simple and desolate to the evolution of a complex, colorful, and diverse planet of today. If this is the case, then the pavilion would be suggesting a more conventional notion of global development in which complexity and advancement is more evolutionary and linear. This philosophy closely resembles that of Rostow's modernization theory rather than a post-development philosophy. But perhaps what the conflicting interior and exterior could be inferring is that there are infinite ways of perceiving and constructing the world but go unrecognized. The interior suggests a bounty of multiple ways of being and living while the exterior portrays a singular, monoculture world. This second reading suggests a more post-development critique and thinking. As Escobar writes, there are increasingly more attempts to construct alternative cultural visions as drivers of social transformation through design (Escobar 2018, p 61). These 'designs for transitions' as he calls them, are aimed at highlighting interconnectedness, dissociating well-being from growth and consumption, and nurturing values such as solidarity, ethics, community, and meaning (Escobar 2018, p 194). Central to the transformation is the repairing of dichotomies, the dualistic worldview against the interconnected views of nature and society, the global versus the local, and a monoculture in contradiction of diversity.

SUSTAINABILITY

Every pavilion in the Aichi expo was considered for their sustainability potential. As the Earth Tower pavilion was one of the only to be constructed and not using the modular system, it was important for the expo to have a clearly defined plan for the pavilion during and after the Expo. The Tower along with its neighboring building, the Japan Pavilion Nagakute, were built with the idea of being a model for new businesses and architecture to the concepts of reuse and recycling for the future (Tsunoda et al, 2007, pp 188). The resources of the pavilions were built using salvaged materials and government auctions were conducted to recycle materials post-expo. This was a success in that over 60% of the pavilion's resources were auctioned and recycled. Success also came from initial construction costs being kept to a minimum due to the reuse plan. Waste was a central theme for the expo, but the construction of the Earth Tower exemplified that it is not only material waste that matters, but also other forms of waste. By organizing the pavilion around recycled materials, it also minimized the waste of monetary resources for a known-temporary structure. (Tsunoda et al, 2007, pp 189). This experiment demonstrated that resources of knowledge are just as important when considering sustainability as it is to consider the techno-economic resources on hand. "Sustainable development is not only sustainability of natural resources, but also of finding a means to do with what we already have and to use these resources to their utmost" (Tsunoda et al, 2007, pp 185).

The Earth Tower communicated concepts of sustainability and the environment with a variety of methods. The most apparent was the incorporation of the natural elements with the pavilion and making them interactive. The pavilion's use of nature rejected the traditional development notion of having natural aspects as valued only by their economic worth. Rather, the pavilion was designed to work with the natural forces already happening and bring about "unexpected artistic performances, executed by nature through light, wind and water" (Japan Association for the 2005 World Exposition, n.d). Many post development theories emphasize holistic and communal relationships in order to foster sustainability. Earth Tower indicated such concepts through its feature of the 'writing wall', an area close to the entrance where visitors could write messages to each other on paper lanterns about possible directions for new ways of life in the 21st century ("Earth Tower Nagoya City, n.d.). In addition, the coinciding sensorial experiences that visitors encounter when interacting with the Earth Tower are examples of the ways that exchanges between people and nature are developed. These shared experiences allow for the richness of nature and the forces of life to shine, which may awaken new ideas about living. The community aspect of the pavilion is highlighted in these areas. The relation to nature, community, and sustainable practices are also exhibited in other post-development initiatives elsewhere.

One such initiative comes from India in the form of swaraj, or radical ecological democracy. As Ziai (2017) states, swaraj 'entails not only communal self-rule and self-reliance, but also a holistic vision of human well-being respecting the limits of the Earth and the rights of other species' (Ziai 2017, p 2553). While the planet is singular, the world is plural, and post development theorists see these worlds, formed in in difference, and a re-localization and re-

communalization of social life as principal criteria for moving towards sustainability (Fry 2015, p 21; Esteva & Escobar, 2017, p 2569). Mainstream economics and development theories tend to underscore competition and privatization rather than the communal sharing of resources and experiences. (Kothari et al, 2019, p 227). There is a unique Japanese word, kyosei, that is used to mean symbiosis and living together that embodies the vision depicted by the Earth Tower. The term has been used as an attitude relating to humans and nature. In 2006, there was the establishment of the Association of Kyosei Studies to clarify the concepts of these relationships and use them practically in the real world (Kothari et al, 2019, p 226). The main premise around kyosei is to foster sustainability by respecting the heterogeneity of cultures and citizens. It highlights the positive aspects of living together on one Earth and the assortment of understandings that humanity experiences (Kothari et al, 2019, p 241). Kyosei is a traditional Japanese concept and was not formally communicated in the Earth Tower pavilion. However, there were many indications within the pavilion that echo the kyosei ideals. Earth Tower offered a space for people to come together and use their senses to experience something as one. The pavilion was a space designed for shared learning, collaboration, and exchange. These are all central aspects to Kyosei, or co-living. The pavilion's focus on non-materialistic values such as the natural elements, harmony, and relaxation, correlates with typical alternative development discourse. It does not necessarily prioritize further innovation in sustainability communication but rather suggests different ways of utilizing basic and natural phenomena. Creating a space where multiple phenomena can be experienced and that can result in more empathetic awareness and alternative ways of understanding. The Earth Tower fulfilled many of the post development attitudes for "theorizing contemporary struggles and envisioning different futures based on non-capitalist values, communal ownership and a humbler relation of human beings to nature" (Ziai, 2017, pp 2552). Although the pavilion did not explicitly critique capitalist values, the incorporation of the minimalist design, its emphasis of reconnecting with nature, and encouragement of relaxation suggests an effort towards non-materialist forms of being.

Overall, the Earth Tower pavilion exercised a balanced relationship between the planet, the product, and the people that encountered it. It did this by delivering a pavilion that envisioned a better world for tomorrow while minimizing the damage from the process by having a waste-free construction. It benefited people by offering an area that allowed for contemplation, collaboration, and rest.

(top) Nagakute Japan Pavilion and Earth Tower, EXPO Aichi 2005 (2005) Photo by Kazuyuki Morita distributed under a CC-BY 2.0 license. Retrieved from: https://www.flickr.com/photos/xazuyuxi/109971408/

WELL-BEING

The concept of well-being is best seen as an abstraction, used to refer to any of many aspects of life (Gasper, 2007, pp 26). Human well-being is defined and measured in a multitude of ways. In traditional development studies, well-being has generally been calculated based on economic factors such as gross domestic product (GDP) per capita. More recently, approaches brought forth by Amartya Sen and Martha Nussbaum, incorporate more multidimensional factors into a person's well-being. Moves toward alternative measures and visions of well-being signify that human beings have more faculties than just feeling happiness, pleasure or pain; notably they are creatures of reasoning and of meaning-making, of imagination, and of intra- and inter-societal links and identities. (Gasper, 2007, pp 23). The abstractive nature of the concept of well-being and how multifaceted it can be is illustrated by the Earth Tower's kaleidoscope feature.

The Earth Tower's overall purpose fell within the genre of pavilion architecture that is flexible, open space often associated with pleasure, relaxation, and entertainment. Situated next to a large koi pond in the center of the Expo grounds, the Earth Tower was primarily a stop for visitors to take a rest during their tour of other pavilions. It was also meant as a space for people to mingle and interconnect with each other, to promote social well-being. The "writing wall" at the entrance of the pavilion displayed fairgoer drawings and quotes, meant to promote the "kindness of the human heart", and stress the importance of cooperation and collaboration. The Earth Tower embodied an "ontologically oriented design in that it attempts to construct a space in which ways of being are considered and reflected upon" (Escobar, 2018, pp xi). Spaces like this are thought to be conducive to the betterment of psychological well-being by lowering stress, offering autonomy, and giving space to consider wider purpose and meaning of life. The pavilion also provided opportunities for social well-being by enabling positive interactions with others from around the world. The interactive nature of the pavilion was a highly personalized experience that was also being simultaneously experienced differently by others. This type of architecture is interesting in its relation to well-being. As LeBlanc (2017) states, architects are persistently concerned with what a built space might or might not contribute to the community because they must think beyond individual and collective human agency (LeBlanc, 2017 p 451). In their creation, expo pavilions can offer distinct critiques of contemporary life by crafting alternatives that allow for the experimentation of what a desirable community of the future might look like. This idea is discussed further by Catharina Dyrssen (2011) in her chapter *Navigating in heterogeneity: Architectural thinking and art-based research*. It is the idea that spaces have "a dual capacity for critical positioning: as an architectural project not only in the built form but also as a theoretical model or simulation used to project an alternative vision for the future and to direct this projection to present repressed conditions from a critical perspective" (Dyrssen, 2011, pp 233). By emphasizing multi-dimensionality, the interactive process gives insights into ideas around the deepening and widening the global development agenda regarding well-being and community.

The inside of the building was playful and creative, while the exterior remained a strong, dominant force in the landscape suggesting that there are two sides to nature. One side is a still, grounding space, that is a spiritual symbol of the built environment's powerful supremacy. The other is a nature that is colorful, constantly moving, devoid of stillness, and stimulated by (literal) outside influences. The varying differences of the Earth Tower pavilion suggest a view of the muddled dichotomy of current society and how differences in built spaces have profound effects on well-being. Up until recently, contemporary society has been increasingly built upon spaces that separate and isolate. They tend to be boring, predictable, and disconnecting. Think of the modern cubicles and the supreme authority of organization and efficiency that governs many commercial environments. Japan, especially, has an infamous reputation of having extremely rigid and stressful working conditions in the corporate sector, which has ultimately led to several occupational-related deaths (Kawakami, 1997, pp 54). Most humans are subtly shaped by built environments; however, we are also the creator of them. The Earth Tower indicates that much of modern society has become confined to spatial "boxes". At the same time the pavilion suggests integrating features of natural

environments to combat daily monotony and disillusionment to nurture well-being by cultivating calmness, peace, and beauty. It is likely that by doing so, the quality of life will grow in various well-being realms including the social, spiritual, vocational, physical, and environmental, among others.

In another, more abstract interpretation, it seems as if the Earth Tower questions the idea of hegemony and promotes new perspectives through its construction. The promise of growth as a condition for the improvement of quality of life for an increasing number of people has lost credibility, not only from a structural point of view, but also in the perspective of many social actors (Petridis et al, 2015, pp ,179). Japan itself has undergone doubt about the growth paradigm and is evident in official expo text:

> *"Japan has achieved economic development. Yet in the process we have inadvertently sacrificed our human values on the altar of economic efficiency. We must alter the relationship between humanity and technology as well as the social relations among people themselves. To fail in this can only further exacerbate the degradation of the global ecosystem and imperil our own and our planet's future. Japan is acutely aware of this imperative, for the contradictions of modern civilization are especially apparent in Japan." (Japan Association for the 2005 World Exposition, n.d, "Theme and Sub Themes").*

In a material sense, the Earth Tower seems to recognize the recent history of a dominant neoliberal model of modernity through its size and stature. The Earth Tower, as tall and massive as it is, seems to reject the concept of unlimited growth and mass consumption due to its minimalism and "cut off" top area. The tower looks as if the structure was slashed as it became taller. Could this be seen as a representation of limits to growth? Being that the pavilion was meant to represent the planet and all its citizens, the truncation of the tower's height might suggest the abrupt end to humanity if the current ideas about growth and expansion continue. For me, this pavilion seems to be doing just that. Going back to the duality between the exterior and the interior, the simultaneously bleak and boring exterior, rising into the air alludes to a critical point humanity faces. It symbolizes the "systematic creation of unsustainability and the elimination of futures" while the interior and colorful beauty of the kaleidoscope represents a future of pluralistic strategies and solutions for living in an ever-changing world (Escobar 2018, p 83). Philosopher and design theorist Tony Fry duplicates this idea in his quote "the future is being butchered on the slaughter bench of economic growth" (Fry 2015, p 93). It is perhaps speculative and far-reaching for these ideas to be behind the true intentions of the pavilion but worth considering.

Nonetheless, the pavilion stressed a great importance of relating with nature and other Earthly citizens, rather than promoting the sponsor of the pavilion, the city of Nagoya. Instead, pavilion organizers stated, "we hope that visitors will appreciate the calming powers of nature manifested through the performance of the three elements of light, wind, and water (Japan Association for the 2005 World Exposition, 2005). As one of the Expos largest and highest structures, it generated attraction from many visitors. The pavilion did not advertise anything else, and the exhibit was aimed at nurturing "well-being and gentleness in the hearts of visitors" (Japan Association for the 2005 World Exposition, 2005). The pavilion echoes ideas made by degrowth proponent, Serge Latouche, in that modern societies

and traditional development policies are growth-addicted (Petridis et al, 2015, pp 177). This 'imaginary of growth' has led to legitimizing practices, institutions, and habits that negatively affect societal well-being (Petridis et al, 2015, pp 177). Assuming a single path forward to a good society silences the potential of other alternatives to these models that could improve human well-being (Ziai, 2017, pp 2552). Considering Japan's chronic economic stagnation of the time, it would make sense for Japan to consider alternative routes to linear economic growth and search for other solutions.

FINAL REMARKS

The pavilion acts as a symbolic gesture that stresses the need to develop alternative strategies that "cultivates again the harmony of coexistence through the equality and unity of all living beings within the ongoing, recursive, and cyclical renovation of life" (Escobar, 2018, pp 13). The function of the Earth Tower is fundamentally simple, beautiful, sensory, and positive. The structure's emphasis on the kaleidoscopic feature suggests the interconnected and relational aspects of life, nature, and existence. The ever-changing colorful forms that display in the pavilion create wonder and delight but also reflect the world's constantly evolving coexistence. The fractal expressions represent the plurality in differences among people and the natural world and yet they are still interacting with one another. This type of elaboration manifests in post development theory as well in that our world is fundamentally interconnected but not necessarily unified. The idea of unification, as with globalization, is opposed by post development theorists but routinely encouraged by mainstream development theory. The Earth Tower celebrates diversity while maintaining the relational character of life. It reiterates the views of kyosei, noted earlier, which is the act of "living together by mutually accepting the multiplicity of human cultures and identities and constructing equal relationships with each other and nature" (Kothari et al, 2019, p 226). The creator of the Earth Tower states that he wanted the building to "arouse well-being and gentleness in the hearts of visitors" (Japan Association for the 2005 World Exposition., 2005). In the eyes of the expo organizers and creators of the Earth Tower, the areas of relaxation and well-being could tap into the broader aim of awakening a deeper spirituality within fairgoers to re-evaluate concepts of human's relationship with society and the environment.

The 2005 Aichi Expo is Japan's second occurrence at hosting the global mega-event, with the first hosting being the highly successful 1970 Expo in Osaka. The Aichi expo therefore did not come with the grandiose expectations of demonstrating itself within the international community in the form of nation-branding. Rather, this expo was more interested in fulfilling its theme around human's interconnected relationship with nature and the environment. With environmentalism being the concept most likely to carry the world's fair as an institution successfully into the future, the Aichi 2005 Expo laid down the foundation (Nadis, 2007, pp 581). Additionally, the Earth Tower supports the view that "knowledge is constructed through the intimate crisscrossing between making, observing, and understanding" (Dyrssen, 2011, pp 226). Multimodal communication and representation of contextual situations of sustainability

and well-being were displayed throughout the expo but were exemplified notably at the Earth Tower. The simple and participatory pavilion was representative of the deconstruction of so-called truths. The encouragement of engagement and reflexivity can be seen as an instance of the pluriverse idea emerging (Loper, 2011, pp 6). The world's largest kaleidoscope was more than a giant viewing center but rather, a building to "transition imaginations, which posit the need for transformations in the dominant models of life and the economy" (Escobar, 2018, pp 4-5).

SEED CATHEDRAL AT SHANGHAI EXPO 2010

(top) Designing the Seed Cathedral (2010) Photo by Christian Schittich, Munich. Detail Magazine Online. Retrieved from: https://www.detail-online.com/article/designing-the-seed-cathedral-14225/

HISTORY

China has had a long history with World Fairs. The first-ever international exhibition in 1851 transpired amid the second Opium War between China and Britain, and yet China still held a booth dedicated to showcasing the nation's sought-after riches of silks, porcelain, and exotic teas (Zhouxiang 2016, p 97). Ever since, China has used World Expos as a mechanism for facilitating communication between the state and the rest of the world. The Expos are seen as a tool for constructing China's international image. The quest for hosting the 2010 World Expo in Shanghai began in 1999 with the official bid being placed in 2002 by the Chinese government. At the time, China was a rapidly developing country with an immense number of economic resources and a relatively poor national brand. The Expo, like the 2008 Olympic games, were important opportunities for China to present itself positively to its domestic and

international audiences (Krupar 2018, p 91). Going against other host cities in Russia, Mexico, Poland, and South Korea, China overwhelmingly won the final vote to host the 2010 Expo in Shanghai (World Expo Museum, n, d.). Contrary to past exhibitions, China was the very first developing country to host the event in 151 years, signaling a new post-colonial frontier in the 'genealogy of world spectacle' (Krupar 2018, p 92). Additionally, to cement its place as a global power, China made the audacious goal of making the event the largest and most expensive in expo history. Being that the United Kingdom (UK) was the world's first exhibition host, it was therefore very important for the UK to have a strong and significant presence at the Shanghai expo. With up to a million visitors a day and over 250 pavilions to compete with their attention, the British government made its goal to be in the top five pavilions (TED 2011). The UK Government also sought a pavilion that showcased the country as a desirable place 'to live and work, has good governance, and is multicultural, diverse, and sustainable' (Lifson, 2010).

"BETTER CITY, BETTER LIFE" THEME

While the previous expo in Aichi emphasized nature as its primary theme, the 2010 expo was the first exhibition to focus on the urban condition specifically (Schrenk & Jensen, 2014 p 560). The theme, entitled "Better City, Better Life", suggests the urgent need to create environmentally friendly cities through urban economic prosperity and innovations in science and technology. One of the global challenges facing the world today is, indeed, rapid urbanization. However, most of the Expo's urban examples came from the world's most economically connected cities and gave a vision of cities through a predominantly Chinese lens (Paling 2013, p 121). The sentiments of rendering urban issues on a 'developing' country stage were highly pronounced in official Expo discourse but its realization was much more ambiguous. Rather than offering insight into urban problems of the developing world, specifically in regions that account for approximately 9 percent and 7 percent of the world's urban population, sub-Saharan Africa and Southeast Asia respectively, countries with some of the world's most populous and growing cities, were weakly represented or entirely absent, primarily due to their low economic status (Paling 2013, p 125). Instead, urban knowledge was subjected to the traditionally Western regions and North-East Asia (predominantly China), likely wanting to showcase itself as a rising superpower. In stark contrast to the anti-urban, rural bias of previous Maoism, prioritization of representing the prosperous global North and Chinese cities as the models best to follow has been a strategy of China's development for some time (Simpson 2016, p 183). "Better City, Better Life" explicitly sought to create a future vision for what better cities and lives might look like. However, leading up to the event, more than 18,000 families were evicted from their homes to pave the way for China's global technology and innovation showpiece (Amnesty International, 2010). Technological utopianism has been a common theme of past expos, with particular visions of the future being promoted and projected. At times, these representations of the future have been misguided and destructive, as the case with past expos extensively promoting the oil industry in world's fairs in the post-war period. As professor Scott East asserts, the world that pavilions often represent matter. They are formed by value-laden practices and establish the criterion for further practices of our collective futures

(East 2013, p 172). As each 2010 Shanghai Expo pavilion manifested its own ideas in relation to the theme, the approaches varied considerably (East 2013, p 170). The following case study represents the unique approach the UK took to the theme and its overall representation of urban development ideas.

Seed Cathedral

By 2010, China embraced contemporary architecture as a way to assert its superpower status for over two decades. It came as no surprise that the bizarre-looking Seed Cathedral was one of the most popular pavilions of the expo. It was one of the most visited pavilions at the Shanghai expo with over 8 million total visitors and was awarded the gold medal for pavilion design by the BIE (Heatherwick Studio, 2010). Commissioned by the UK's Foreign Commonwealth Office, Seed Cathedral was created by renowned British architect, Thomas Heatherwick, who partnered with several other British architects and designers (Heatherwick Studio, 2010). Heatherwick is said to focus his architectural efforts on problem-solving (Chousein, 2019). In accordance with the theme of the urban condition, it is typical for country pavilions to relate their respective nation with the host nation in some way. The UK is believed to have the world's first publicly funded civic park as well as the world's first botanical garden, the Royal Botanic Gardens at Kew (Sherman, 2018). The Royal Gardens were an important element to Heatherwick's

vision as Kew also houses the Millennium Seed Bank project, an initiative of collecting and storing seeds from around the world representing the world's known plant species to save for future generations (Van Slageren 2003, p 195). Thus, the pavilion's subject matter was drawn from Britain's green city ethos and its partnership with China, signified by the 2004 signing of a 10-year reciprocal partnership with the Millennium Seed Bank and China's Academy of Science, where collected species would be collected and then stored locally in China and in the United Kingdom (Royal Botanical Gardens Kew Press Office, 2009).

Situated next to the Huangpu River between fellow European nations, Italy and France, Seed Cathedral, begged the viewer to look at it with wonder (Shanghai Expo Guide, 2010). The design of the structure could be a nod to the infamous Crystal Palace, the massive transparent exhibition space of the 1851 exhibition (Paxton, 2008). In contrast with other pavilions, the UK's structure rested on a very small amount of the overall space allotted. Intended as space for expo participants to sit and relax, (a welcome characteristic at the world's busiest expo), the primary objectives of the pavilion were to give visitors a place to give thoughtful examination of the human relationship with nature and possibilities of green cities (Heatherwick Studio, 2010). While the Seed Cathedral was not exactly green at all, it represented a unique narrative around well-being, sustainability, and the environment.

At 10 meters high, the striking structure showed a grey box that gave the visual illusion of being either very sharp or very fuzzy. At first glance, the building is very bizarre looking. It offers an unusual visual experience with over 60,000 fiber optic palps encapsulating a few, tiny seeds on the tips (Heatherwick Studio, 2010). The residents of Shanghai gave the structure a nickname, 'the dandelion' for its visual appearance (Kaltenbach, 2010). The entire pavilion space had very little color and blended well with the sky's gray hue. The exclusion of color indicates that the viewer should be concentrated on the other aspects of the structure, namely the texture and materials used. The lack of color also implies a pure, clean, and simplicity of the space allowing for reflection and contemplation. The palps, able to move with the wind, were meant to 'represent fields of wheat blowing in the wind' (Kaltenbach, 2010). The space around the structure was empty, with crumpled-looking, geometric "hills" made up of a grey and red, soft Astroturf-like surface. The strange nature of the pavilion gives off an otherworldly, alien, and ethereal appearance (East 2013, p 181). Its surrealist presentation seemingly distorts time and place (Mashhadi 2014, p 52).

The inside of the Seed Cathedral had nothing else but more inward-facing antennae of seeds. Visitors were able to touch the rods and investigate the seed rods further. Designed for contemplation, the space was void of any sound, and the pavilion's interior also served as a cooling center in the sweltering Shanghai summer. East, who visited the pavilion states: "In order to make sense of the structure, audiences crane their heads around, up and down like hummingbirds searching for a safe place to land; searching, they pluck a single tube to focus on, and here they perch their attention for a moment" (East 2013, p 185). The absence of any other exhibition material besides the seed rods is quite uncommon. For most country pavilions, there is the goal of introducing and educating visitors to the country with aspects of history, trade products, culture, in order to promote tourism and economic investment. The

pavilion and its design were striking in that it did not conform to the typical tradition of showcasing the country through obvious and cliche methods.
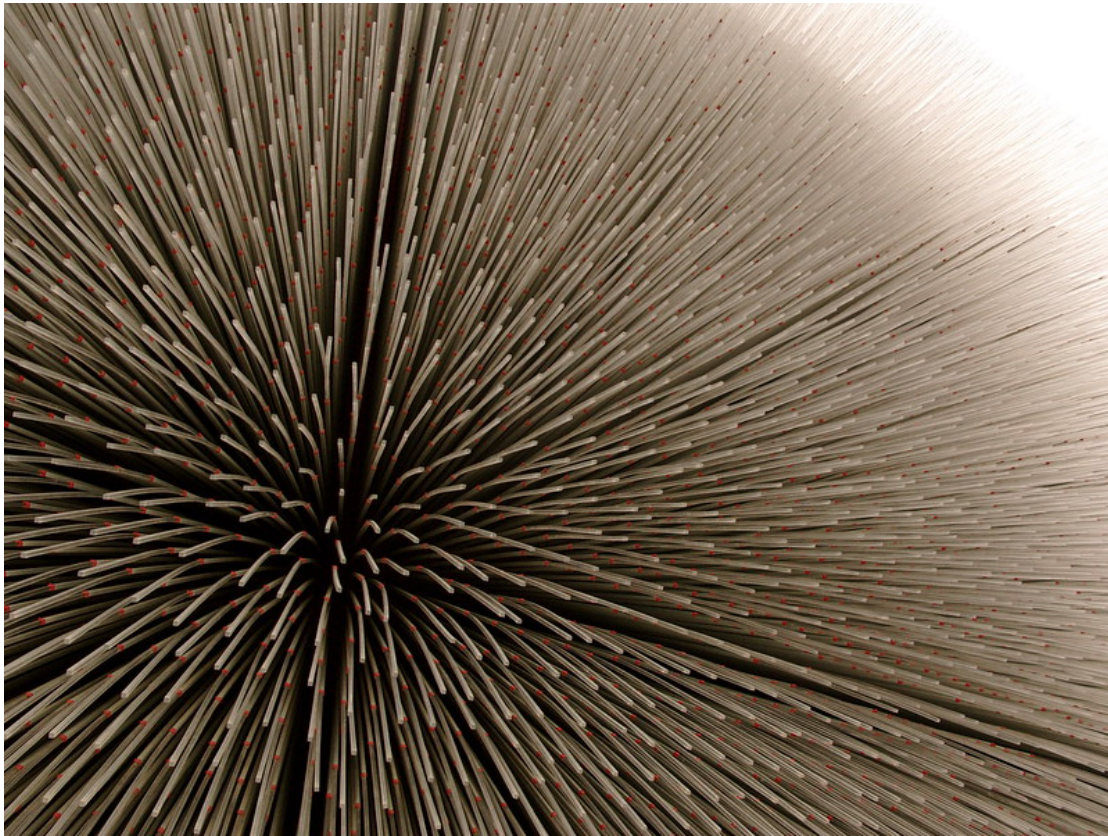
PLURALITY AND THE DEFENSE OF THE IMAGINATIVE

According to Heatherwick, the pavilion space was designed with the intention of contrasting with the smooth, slick skyscrapers of the Shanghai landscape (TED, 2011). Seed Cathedral privileged creativity. In many urban areas, particularly in the First World, there has been a simplification of architecture. Where modern buildings may be a fancy shape, their materiality is all the same. Similarly, Wolfgang Sachs speaks to the universalization of architecture and broader trends of globalization having "eroded viable alternatives and have dangerously crippled humankind's capacity to meet an increasingly different future with creative responses" (Sachs 2010, p xviii) The Seed Cathedral's unorthodox design could be reflecting what is known as 'criticism by design', revealing other understandings and visualizes alternatives for the future (Hill 2007, p 165). Suggesting that urban life requires new, bold thinking to find meaningful solutions, Seed Cathedral echoes Escobar's work on 'design for transitions' (Escobar 2017, p x). For Escobar, architecture and design provide a means in which to confront the connected dilemmas of climate, food,

energy, poverty, and meaning without further marginalization (Escobar 2017, p x). The idea is that with more variety in architecture and thus, other urban planning initiatives, could radically alter the pathways of development. Seed Cathedral indicates this logic in its overall simplicity and extent of the pavilion space. With a pavilion budget 50% less than its neighbors and occupying only a quarter of the space given, the UK pavilion implies that less is more. This message also came at a time when China's middle classes embarked on a unprecedented tidal wave of materialism and heightened consumerism as growth rates averaged over 6% in recent years (World Bank, n.d).

The Seed Cathedral's odd design also has a bold determination to bring simple concepts, like the tiny and trivial seed, into new, captivating forms. Inspired by the DNA of dinosaurs trapped in amber, the enclosed seeds are made to seem precious (TED, 2011). The attention is fixated on the inherent value of a seed. (East 2013, p 185). The seeds, situated within the acrylic rods, are isolated in ambiguity and forces the visitor to consider seeds in new ways. Not only are seeds considered here for their potential to convey revival and regeneration, but they are also held as a supply in the anxiety of a planetary worst-case scenario. More on this later in the chapter. With over 60,000 different seeds, the diversity among them is extraordinary. Each with various shapes, sizes, colors, patterns, each seed represented a different outcome and possibility. Their enigmatic essence approaches both hope and ambivalence of the planet's future. The history of cities began from the incorporation of seeds as technology. In addition, for seeds to germinate, grow, and be successful, they require certain environments and conditions. The failure of some seeds to adapt leads to some uncertain futures. Global development issues like climate change, monocultures, urbanization, land-grabbing, public health, and food insecurity all threaten the conditions and adaptive capacity necessary for seeds to flourish. Seeds find their value in their aggregation (East 2013, p 186). Just like grains of sand on a beach, the collection endures by the existence of its different individuals. Seeds, here, could be representative of the diversity of the people and cultures of our singular planet. It is through awareness, acceptance, and inclusion of our diversity and differences, that our planet can flourish (Kothari et al 2019, p xxxv).

SUSTAINABILITY

With environmentalism playing a more refined and complex role at recent international expositions, organizers are also attempting to answer the challenges of the growing unsustainable conditions of our world (Schrenk & Jensen 2014, p 555). Seed Cathedral suggests provocative narratives about the politics of seeds and broader correlations between nature and society. The most obvious of these is the historic, colonial relationship that the United Kingdom has with a great deal of the world. The pavilion's message of saving and storing seeds from around the world could be perceived as furthering Western-Northern hegemony over the rest of the world (Banuri 1990, p 35-36). Indeed, the Millennium Seed Bank project embodies many of the enduring geopolitical structures of global natural resource management. Seeds are to be moved from the global South to the North with the intention to safeguard them to create a surplus that will mitigate the consequence of destroying natural habitats from where the seeds are

withdrawn (East 2013, p 184). This reinforces a colonialist idea of Britain being the world's symbolic authority in terms of scientific-technological innovations **(**Herrera-Lima & Martin-Segura 2018, p 11). Furthermore, East points out that the analogies a seed bank has to general banking are not an accident but meant to present a future laid out in economic terms (East 2013, p 184). Post-developmentalism argues that viewing natural resources in this way has led to the further commodification of nature and harms how environmental issues are handled by way of equitable distribution and sustainability (Shiva 2010, p 229-233). Many scholars believe that ecology and capitalism are at odds regarding issues about climate change because the relentless need to continue economic growth and expansion does not fit within the ecological limits. So perhaps the issue here is not the seed banks themselves but rather the financial language which reflects accounting for seeds in an economic way rather than making sure current behaviors are sustainable.

The success of a sustainable future requires cooperation and impartiality. Most seed banks are formulated through local and global collaboration and partnerships. The Millennium Seed Bank has over 100 partnerships worldwide and seeds can be distributed for free upon request (Chapman 2019, p 131). The seeds within the Seed Cathedral are all sourced from one such partnership in China, the Kunming Institute of Botany. After the expo, the seeds (sheltered in the rods) were distributed to schools across the UK and China as educational resources (Jordana, 2010). Although the major seed banks protect the world's future plant reproduction, simply saving the seed is not sufficient. As stated earlier, the seeds could be representative of a frightening future. Seeds have evolved to be successful in certain conditions and habitats. If these habitats and conditions no longer exist in the future, due to rapid ecological destruction, then the ability for preserved seeds to foster new life could be dampened. The design of Seed Cathedral could be exemplifying this link by expressing a colorless, barren, and dismal setting, a setting that would not allow for preserved seeds to thrive. In other words, the environment cannot be degraded so much as to spoil the lands the seeds require to be successful.

Presenting an interesting relationship between humans and nature through its timeless and futuristic design, the pavilion resurrected a bond that has been historically neglected and put aside by post-industrial societies by reflecting nature through a non-natural lens (Mashhadi 2014, p 47). As the Global South and Global North encounter increasing modern crises and the "inescapable techno-economic mediation," the Seed Cathedral seems to be suggesting a desolate outlook of the urban future (Escobar 2018, p 5). Taking Donna Haraway's definition of cyborg as "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction", the Seed Cathedral highlighted the persistent blurring of man, nature, and technology in the search for development solutions. (Haraway 1991, p 149). For many mainstream development thinkers, the solution to our complicated relationship with nature lies within technology and innovation. Similarly, technology has long been championed by world expos past by promising progress via technology. Post development theorists do not see advances in technology as the sole solution to humanity's issues but merely a short-term answer to deeper issues.

Some pos-development theorists even foreshadow disturbing consequences of increased technological support. Escobar (2017) speaks about a technologically produced transformation and its possible implications, known as the "Great Singularity'', an idea popularized by futurist and author, Ray Kurzweil in 2005 (Escobar 2017, p 17). The singularity is thought of as being a hypothetical moment in time when technological growth outpaces humans and where human's dependence on technology transcends biology. The Seed Cathedral could be implying similar futures by its design to reflect the "world would cease to have any resemblance to the original nature from which all life stemmed" (Escobar 2017, p 17).

As previously mentioned, the pavilion presented an interesting relationship between humans and nature through its eternal and innovative design (Mashhadi 2014, p 57). The materials used for the pavilion are interesting to note due to the environmental undertones that the structure represents. The rods, made of acrylic glass, are a type of transparent thermoplastic and there is debate over the environmental impacts of acrylic products. While impressive that 75% of the structure's materials came from around the Shanghai area, it is unclear how much of the structure was able to be recycled. The synthetic essence of the pavilion also presented a puzzling message. The architect himself notes the mystification of the pavilion stating "Everything is there, and yet there's a kind of absence, we have even had people say, 'Where is it? There's nothing here!' (Lifson, 2010). This type of mixed messaging is common in art in that it gives no obvious interpretations, forcing the viewer to decide its significance and purpose. Rather than give the land a sense of place, the pavilion defines its own ground (Mashhadi 2014, p 51). Seed Cathedral declares an almost extraterrestrial space. E.S. Mashhadi is a teaching fellow and Ph.D. candidate researching how religious architecture can address environmental and societal challenges. He writes about the Seed Cathedral in his study, "*Architecture as symbolic reverence for nature"* and notes that the pavilion has unmistakable 'transcendental intentions':

> *"The emptied, womb-like space signifies the origin and our dependencies on Mother Earth. Dramatically expressed by encapsulating the seeds in transparent blocks, frozen, as if they meant to be saved from extinction. Referring to the expo's main theme, "Better City, Better Life", the pavilion emphasizes the indispensable dependency of our existence upon nature and a healthy environment. By doing so, the Seed Cathedral itself becomes a medium. Although it does not possess remarkable environmental features or sustainable performance, its contribution to ecological awareness goes beyond the limited physical boundaries of a pavilion. With its implied, yet impressive message, the pavilion turns to an environmental manifesto." (Mashhadi 2014, p 51-52)*

The pavilion was thus symbolic of the historical evolution of man's relationship with nature, specifically from a Western view, and alludes to a contemporary notion of human identity, where the cumulative view of nature has been increasingly technologized (Kull 2001, p 50). With notions of nature and the environment being associated with mechanics and mathematics, the pavilion associates the functioning of nature with the functioning of a machine as if it were truly a lifeless realm (Kull 2001, p 50). The Seed Cathedral's acrylic rods could be an analog, yet pixelated, depiction of the ominous digital transformation. The space experiments with ideas between science and technology

as well as between nature and culture, subjects, and objects, natural and artifactual, physical and nonphysical, real and simulated (Kull 2001, p 51). Such a display could be read as a critique to the Western model, where a stubborn faith in progress continues to push the empty promise of technology into a "life beyond biology" (Escobar, 2018 p 17). Degrowth proponent, Serge Latouche echoes this statement by describing the West as an 'impersonal machine' whose civilization embraces desolation (Latouche, 1993, p 11-13). On the contrary, the same pavilion could also be perceived as an altar to advancement, where one day, where humans abandon the current planetary boundaries, seeds in tow, to a more hospitable exoplanet. "A Noah's Ark perched on some barren planet" that will eventually save us all (East 2013, p 184).

(top) UK Pavilion (2010) Photo by jyl4032 distributed under a CC-BY 2.0 license. Retrieved from: https://www.flickr.com/photos/jyl4032/4817657876/

WELL-BEING

If the Seed Cathedral was sending a message about the "modern" identity in human beings' relationship to nature, which seems very plausible, it was perhaps also encouraging a conscientious acknowledgement *of* and *with* the material world (Mashhadi 2014, p 48). Heatherwick states that the name of the pavilion, Seed Cathedral, was not meant to imply anything religious but to contradict the idea of cathedrals in architecture, in which cathedrals are

these massive, grandiose structures while the tiny seed is deemed insignificant (Lifson, 2010). Similarly, seeds, and other natural resources that humans may consider irrelevant are what bring potential to life itself. Each seed offers a possibility, and together they form an extensive menu of opportunities waiting to be cultivated. The symbolic role of a small and simple seed to a complex and elaborate network is suggestive of the power a single individual has on a city. Cities are made up of diverse individuals. As with the seeds, each generation of individuals produces the next (East 2013, p 186). Individuals bring with them experiences and information that may not line up with the dominant, Western way of life but rather could bring potential ideas to better well-being. The seeds represent this same idea. Human life and good quality living rests with both a diverse range of natural nutrition (seeds) as well as diverse communities of individuals (cities). As a singular planet, it is the differences of the flora, fauna, cultures, materials, functions that create a rich life. The narratives of the seeds, its potential to bring about human security and celebration of biodiversity, iterates messages like post-development discourses about acknowledging traditional knowledge. Actively considering expertise in non-hegemonic life worlds allows for greater diversity in practices and knowledge. Researchers, Stephen Marglin and Frédérique Apffel-Marglin agree:

> *"Just as ecologists speak in favor of maintaining the diversity of the genetic pool, so we should defend cultural diversity because the existence of a variety of cultures maintains "the diversity of forms of understanding, creating, and coping that the human species has managed to generate" (Margin 1990, pp 16–17).*

To balance out the crowded, bustling, and overwhelming nature of the world's largest expo, the pavilion's empty space allowed visitors a tactile and sensuous experience. Devoid of any digital screens and multimedia interfaces that clutter many other pavilions, the Seed Cathedral's fuzzy geometric hills, provided a smooth and uniform base of 'visual calmness'. "It allows people a sort of social space where they can catch their breath within this enormous, amazing, hectic Expo." (Kaltenbach, 2010). The interior of the space was also free of any sound for viewers to ponder the seeds thoughtfully. "The studio's intention is to create an atmosphere of reverence around this formidable collection of the world's botanical resources; a moment of personal introspection in a powerful silent space." (Jordana, 2010).

The pavilion spoke to well-being in a more obvious way regarding cities and urban life. The UK is regarded as one of the world's greenest cities, with over 40% of the city's area dedicated to public green spaces (Tute, 2018). One of the pavilions' objectives was to highlight the importance of public greenery and how they can provide greater well-being to individuals and urban communities. The open geometric field of grey Astroturf of the pavilion space is meant to act as a restful and welcoming space for people to gather and relax. There is also an area beneath the cathedral, entitled Green City, that displays an inverted map of several cities in the UK and their respective green spaces (Warmann, 2010). This area informs of the sheer amount of city space earmarked for parks, gardens, rooftop gardens, trees, and other plants but also is a space to cool off as the area has natural air circulation (Warmann, 2010). These elements showcase how urban futures can benefit from incorporating more public green spaces. Public

parks and green spaces in general are hugely important for the well-being of its urban citizens. An international team led by the University of Geneva (UNIGE) recently said that "the greening of cities through public green spaces has been shown to play an essential role in the well-being of individuals, regardless of their social class" (UNIGE, 2020). Public spaces also support biodiversity and health by "filtering rain, reducing water pollution, protecting drinking water, and decreasing the rates of waterborne illness" (UNIGE, 2020). Cities increasingly require more green spaces to combat the heat island effect. Urban green spaces also meet other human needs that promote sustainable well-being, such as social activities and physical exercise. Large, open spaces promote recreational experiences as well as provide ecological benefits. Heatherwick implies through Seed Cathedral that the design of buildings and outdoor city spaces must be reconsidered if we are to find solutions and alternatives for today's urban challenges. Creativity and diversity must be cultivated, along with the seeds, to sustain and nurture human life.

The monolithic Seed Cathedral, deprived of any digital signage and free from the spectrum of colors, provided a moment of relief and reflection. Repeated elements of absence are important for the Seed Cathedral. Everything is there, yet the nothingness pulls you in further. The visual deficiencies could have a dual purpose. Human well-being is often linked with the availability and access to natural resources (Naeem et al 2016, p 2). The satisfaction of human wants and needs are controlled by the supply and access of natural resources. The Millennium Seed Bank project and other seed banks around the world recognize this concept. It is estimated that 40% of plant species are vulnerable to extinction (University of Arizona, 2019). Seed banks offer a form of protection against this by preservation. Threats to plant species have been increasing, mostly due to human-related factors, and the absences indicated throughout the pavilion share the story of loss and disappearance which can directly affect well-being. Having a seed bank as large as the one housed at Kew implies a conscious rationalization of what humans have done to the planet has been destructive and catastrophic. Additionally, scarcity asks larger questions of sufficiency. Are the 2.4 billion seeds in the Millennium Seed Bank underground collection adequate for the infertile future that the pavilion suggests? How much is enough, what is good for the patterns of life, and will everyone receive their share? (Sachs 2009, p 202).

FINAL REMARKS

The UK pavilion embodied new ways of thinking via its aesthetic form. Seed Cathedral was a refreshing take on the genre of expo pavilions in the modern era. In the context of traditional expo strategies, the country rejected the common formula of displaying itself as a tourist destination or telling the history of the nation, instead the Seed Cathedral asked, 'What could we do differently?' The unconventional design coupled with the unconventional integration of the seed, challenged conventional ways of thinking and being to free ourselves from conventional solutions. Seed Cathedral displayed the seed, society, and nature, as not only what it is but also what it was and what it can become. The seeds in the pavilion were used as a "powerful metaphor of continuity and history and

identify regenerative space as the site where the invisible manifests as the visible and potential is realized as reality" (Mazhar 2019, p 247). The pavilion represented material as well as conceptual constructions of what development has become and how alternatives are possible. It also was very adept to the adherence of the theme and the incorporation of the natural world, urban life, and well-being. These concepts have had increasing attention in the mainstream development discourse. With the UK government sponsoring the pavilion, it could be a sign of greater investment and interest of powerful policymakers into these realms of post-development. Situated in rapidly growing China, the pavilion warned of a potential doomsday while simultaneously offering hope in the form of seeds. "Seeds suggest the beginnings of future forms, but their final form remains a mystery buried inside their husks" (East 2013, p 186). There are several ways in which to read this perplexing pavilion and this case study is but only one suggestion. In all its bewilderment, the Seed Cathedral provides another framework for understanding.

ZERO PAVILION & SLOW FOOD PAVILION AT MILAN EXPO 2015

HISTORY

Italy has hosted a total of eight expos, including six specialized and two world expositions. Only France and the United States have hosted more. The first world expo was the 1906 Milan International. The theme of transportation was used to highlight the engineering achievement of the then longest-railway-tunnel in the world, the Simplon Tunnel, which connects Switzerland and Italy through the Alps (Britannica, 2019). Italy won their second world expo bid in 2008 with the country's fashion and financial capital, Milan, due as the expo site. The announcement came as the country was reeling from the economic effects of the Great Recession and was amid a political crisis with controversial, center-right leader Silvio Berlusconi, retaking power as Prime Minister for the third time (Balmer, 2008). Milan competed against Izmir, Turkey for the hosting title who rallied under a health-centric theme (Balmer, 2008). In the seven years between the 2008 announcement and opening week in May 2015, the expo experienced several major scandals making it "one of the most controversial world's fairs ever staged in Europe" (Wainwright, 2015). Aligning with previously mentioned ideas of world expos and mega-events as catalysts for economic growth and national development, the expo was still considered a "great opportunity" for Milan and for Italy as a whole, hoping to generate an additional €10-14 billion for the country's GDP.

Expo issues were almost immediate, beginning with the initial planning phases. In the years leading up to the event, several expo managers and former Italian parliament members tasked with expo leadership were arrested for alleged attempts to influence public contracts, tax evasion, and corruption before the expo opened (Guardian, 2015). Corruption in Italy is one of the country's major issues and the Lombardy region, where Milan is located, is one of the nation's worst offenders. Other controversies involved the expo site itself, with massive construction delays,

plentiful workers' rights violations, and an ever-escalating budget reaching up to €13 billion from its initial €1.5 billion (Wainwright, 2015). All the disorder with the Milan expo culminated in the opening day protests on May 1 when over 30,000 local Milan residents, part of the 'No Expo' group, demonstrated against the expo (Guardian, 2015). The protests turned violent when masked demonstrators, whom No Expo say were not part of their organization, began smashing storefronts, throwing firebombs, destroying dozens of cars, and leaving several police officers wounded (Dienst, 2015). The No Expo group opposed the tremendous public expenditure on the temporary event after years of suffering economic decline and high unemployment. Many people perceived the involvement of massive corporations and some of the world's known pollution offenders, such as McDonalds and Coca-Cola, as a disgrace to the expo's theme of encouraging and supporting sustainable food practices (Guardian, 2015). The protests along with the controversies of the Milan expo left open space for contemplation and scrutiny of what a major event like a world expo could accomplish.

For world expos to successfully "serve as a bridge between governments, companies, international organizations, and citizens "(BIE, n.d.) as the Bureau International des Expositions (BIE) intends for them to do, then finding solutions to the pressing challenges of our time requires a collective global effort. It is curious then that many powerful and influential countries chose not to participate in the 2015 expo. Some of the most notable absences included Australia, Canada, New Zealand, and all the Nordic countries (Cull 2015, p 170). The reasons for these countries not to participate are unclear but all chose to participate in both the 2005 and 2010 expo. I note these absences because these countries are thought to have some insight surrounding issues of sustainability in agriculture as well as hold their own unique food cultures (Cull 2015, p 170). The lack of participation from these countries denies public citizens and international actors alike of potentially valuable insights and sends a mixed message about their strategy and intentions when participating in world expos overall (Cull 2015, p 170). Despite all the struggles and controversies leading up to the event, the expo still managed to attract over 22.2 million visitors in its sixth-month duration. (BIE, n.d.).

"FEEDING THE PLANET, ENERGY FOR LIFE" THEME

World expos have always expressed how science, technology, and culture can drive and predict future scenarios, but they have yet to clearly focus on emerging issues concerning food security, dietary education, and agro-food supply chains. The expo explored questions like, who and how to feed a planet of humans who are increasing in number, wasting food, and outstripping the carrying capacity of the environment? Moreover, 2015 was an important and influential year for several development initiatives including the Sustainable Development Goals and the United Nations Climate Change Conference which ended with adoption of the Paris Climate Agreement. The global food system affects all countries, including those most developed. This makes the Milan expo unique and relevant to wider development discussions.

Italy made for a worthy contender for hosting the world's first food-centric expo. It is a country that consistently ranks high in cultural influence. This type of influence is characterized by the strength of the nation's food, fashion, and entertainment. Steeped in history and tradition, Italy is a family-oriented society with an active sense of pleasure, passion, and creativity and their food culture is no different. Derived from a rich gastronomic heritage and long-standing traditions, the Mediterranean diet is largely regarded as one of the best for health and longevity.

According to the Food and Agriculture Organization (FAO) of the United Nations' 2015 report The State of Food Insecurity in the World, hunger is an everyday problem for 795 million people in the world (FAO, 2015). Of those 795 million, 780 million are in developing regions of the world (FAO, 2015). Contrastingly, as poor countries become more prosperous, they acquire some of the problems of industrialized nations. These include obesity. Take China, for example, when per capita income grew fourfold after the economic reforms of the late 1970s, the consumption of high-fat foods soared (Iversen, n.d.). And while incomes continue to grow in the developing world, the income needed to buy a fatty diet continues to decrease. High calorie foods, particularly sugar and meat products have become more readily available and lower-cost due to globalization. Food and diet trends are becoming a paradox for many developing nations, where some of the population is suffering under-consumption, and others indulging in over-consumption. While the elite can choose to adopt a healthy lifestyle, the poor have fewer food choices and more limited access to nutrition education (Iversen, n.d.). So, there is this two-fold challenge when discussing issues around food; how to simultaneously solve world hunger while dealing with growing health and dietary issues (Dienst, 2015). Solving these problems is even more difficult when other issues such as food waste, unsustainable farming practices and public policy enter the ring (Dienst, 2015). This topic surrounding food issues is both captivating and menacing. The expo's creative and engaging installations communicate a widespread recognition that a crisis is looming. But it is, in fact, already here (McCarthy, 2015).

How solutions to hunger and food security are portrayed in the expo is important to examine because they can "shape the realm of what is and is not possible on the food front in the national and local contexts" (Clapp 2008, p 283). Pavilions at the Milan expo were expected to touch on various aspects of what is happening regarding food security, nourishment, sustainability, innovations in agriculture, and food sovereignty in their respective country or organization. Of course, pavilion displays varied widely in their presentation of these subjects. Of the 183 pavilions that participated, two cases will be examined from the 2015 expo in Milan. Both serve as examples of "thematic pavilions" meant to exclusively represent the overall theme to the widest range of people. The first case study to be examined is the Zero Pavilion. The keynote pavilion and one the expo's largest was created by Italy in partnership with several United Nations (UN) agencies. The second case, the Slow Food Pavilion, was one of the most controversial and radically divergent at the expo. Both pavilions offer unique insights into how development discourse around the topic of food was represented at the Milan expo.

ZERO PAVILION

(top) Milan Expo Pavilion Zero (2015) Photo by thinkrobot distributed under a CC-BY 2.0 license. Retrieved from: https://www.flickr.com/photos/134921587@N06/19847136413/in/album-72157656846362380/

Zero Pavilion is the Milan expo's introductory pavilion located at the main entrance to the event. It served as one of the five thematic pavilions meant to exclusively represent the overall theme to the widest range of people (Stein 2016, p 16). It was one of the largest buildings at the Milan expo. The spatial offering suggests that Zero Pavilion was one of the most significant exhibits at the expo and if nothing else, this pavilion should be visited. The pavilion was established in partnership between host country Italy and several UN agencies including the FAO, the World Food Program (WFP), and the International Fund for Agricultural Development (IFAD) (UN News, 2015). The pavilion's moniker comes from the Zero Hunger Challenge, a project launched by United Nations Secretary-General Ban Ki-Moon in 2012 as part of the 2030 Agenda that contains the Sustainable Development Goals. (Zero Hunger Challenge, n.d.). The Zero Hunger Challenge is an initiative that seeks to be an example of how to anchor the various ways that the Sustainable Development Goals (SDGs) can be interrelated and implemented (UN News, 2015). Zero Hunger is named as the second SDG and signals that issues of hunger and malnutrition are some of the UN's highest priorities. Interestingly, 2015 was also the 70th anniversary of the formation of the UN ("Overview - United Nations", n.d.). The UN has been a regular participant at world expos since the 1958 Brussels World's Fair (Lemaire, n.d.). The themes and aims of the Expo typically share many similarities with the broader UN agenda, to foster and engage people to tackle the world's biggest challenges. This year, rather than hold a singular pavilion, the UN held a wide-ranging, horizontal presence throughout the Milan Expo with 18 separate spaces strewn throughout the site, including the

massive Zero Pavilion (UN News, 2015). The expo's partnership with the UN over the years is a result of the international complexity of the issues the expos typically relate to and is driven by the overall UN mission of peace and security amongst nations. This was particularly most notable during the Cold War period. The UN's bigger and more encompassing presence at the Milan Expo signals a preference towards the organization and its ideologies, one that embraces a globalized, unified world.

The Zero Pavilion was created by two prominent Italians, designer and architect Michele de Lucchi, and television presenter and curator, David Rampello (Expo 2015 S.P.A., 2015). The pavilion boasted a staggering twelve distinct rooms dedicated to addressing different themes, such as knowledge, origins of agriculture and livestock production, food storage, biodiversity, industrialization of food, food as a commodity, the paradox of food waste, balance with nature, and best practices (Stein 2016, p 16). Due to the disproportionate exhibit spaces in this pavilion compared to the other cases, this analysis will not cover all aspects of these many areas but will pick out several that are most striking.

The pavilion's exterior was made up of several conical shapes covered in bright fir tree boards. The front of the structure displayed in Latin, "Divinus halitus terrae", or "The Divine Breath of the Earth" (Novozhilova, 2015). According to Zero Pavilion curator, Davide Rampello, the building was inspired by the morphology of the Earth's crust, with eight peaks and a large central 'valley' representing a topographical map of the Italian area surrounding the expo site (Expo 2015 S.P.A., 2015). The intriguing outer infrastructure attracted and invited visitors inside the pavilion to take "a fascinating journey that turns a universal story into an individual one" (Expo 2015 S.P.A., 2015). The pavilion, in its entirety, was meant to capture the complicated relationship between humanity, food, and the natural landscape and how these evolved over time. The emphasis on the Earth's crust aspect of the planet was meant to illustrate how little is known about the Earth's shell as well as its symbolic unity of the planet's origins (Expo 2015 S.P.A., 2015). Passing through the entrance of Zero Pavilion required visitors to metaphorically proceed into the planet via the Earth's crust.

The pavilion's layout was designed as going across time; from the past (memory/history), the present (issues happening right now), to the future (possible solutions, etc.). Inside the pavilion, viewers were welcomed by a tall, elegant-looking library, inspired by the Baroque-style Italian libraries of the 1600s. The library embodies the amount of knowledge mankind has accumulated over the years and the various drawers acted as a "memory archive" of either a symbolic diet ritual, an item of food, or a food-related custom (Novozhilova, 2015). The idea behind the "memory archive" here is to express the importance of sharing, protecting, and using different knowledge relating to various alimentary rites and culinary practices over the history of mankind (Novozhilova, 2015). Former president of IFAD, Kanayo Nwanze, stated in a press release for UN's Zero Hunger Challenge at Expo 2015, "we can help protect and enhance our food systems if we draw on the generations of knowledge accumulated by indigenous peoples and farming communities" ("Memory and Knowledge at Pavilion Zero", 2015). Following the library was a dark room

showing floor-to-ceiling videos of untouched natural landscapes against natural audio of the coinciding scenery. A large, 23-meter-high artificial tree ruptures through the ceiling of the pavilion, serving as a symbol of nature's power and resilience to change. After winding through the rooftop courtyard, the adjacent section of rooms dealt with the evolution of agricultural technology and methods. One room offered an exhibit of ancient tools and a traditional water wheel, another displayed the abundant variety of domesticated fruits and vegetables, and a multimedia display of various hunting, fishing, farming, and ranching methods were shown in another room. These rooms conclude the opening section of the pavilion, first "through symbols and myths, then through the domestication of animals and plants, and the introduction of tools to work the land and conserve food" (Stein 2016, p16).

The middle section of the pavilion told the modern story of man and food through assorted issues relating to globalization, capitalism, consumerism, and waste. These concepts were conveyed in a room showing the spatial models of various forms of human life and how they have changed—beginning with foraging, moving to agriculture, and culminating into a large global city (Lukas 2018, p 295). Throughout each exhibition space are simple multilingual texts that state things like "Man felt the necessity to intervene on the environment, modifying it," and spoke about "our power over the strength of nature" and the need to address the "paradox of waste." (Lukas 2018, p 295-296). One room, entitled the "Food Stock Exchange" was yet another dark room where an 18-meter-high screen projects a simulation of a modern stock exchange. Food is given a fictional price and changes in real-time based on global economic practices. Another room holds dramatic sculptures of food and trash waste to signal human's distorted association with sustenance and consumption. This section of the building could be regarded as a critique against aspects of modernity, echoing assertions from many post-development thinkers. Many, for example, have pointed out that much of the "underdeveloped" way of life cannot so easily be dismissed since traditional diets, building styles, etc. are often healthier, less wasteful, and ecologically more appropriate (Shiva 1989, p 10).

The pavilion's final section was a large, single room dedicated to showcasing 'Best Practices' or the solutions and techniques that some nations are already employing to fight these global food challenges. This area acted as a preview for the rest of the expo and was an attempt to inspire new ways going forward in humanity's journey with food. The sheer breadth of the Zero Pavilion space is indicative of the range and magnitude of the expo's theme. The pavilion conveys the gravity and scope of the issues relating to food by using several methods to express the deeper meaning and convey complexity. "Room after room," the visit showcases "the relationship between food and humanity since its inception." (Lusiardi, 2017).

PLURALITY AND AN EXAMPLE OF ALTERNATIVE DEVELOPMENT?

The Zero Pavilion is a unique example of an introductory pavilion and dissented from classic world expo tradition. Rather than design a pavilion that expresses an imaginary, unnecessary, utopian-type future, the Zero Pavilion, and many other pavilions at the expo choose to portray a more literal and more pessimistic vision of the current situations (Lukas 2018, p 292). This pavilion attempted to convert expo visitors from passive to active users by challenging their understanding of the theme and inspiring action through various sensory methods. The first is visual. The interior spaces employ a high amount of multimedia projections, mostly video, that shuffle you through each space. Soundscapes are created by a mix of loud classical music, environmental sounds of nature, and the daily noises of agricultural production that include farm animals, machinery, and marketplaces around the world. The audio styles as well as the absence of language showcases the global nature of the pavilion and aims to capture the emotions and attention of all visitors. Auditory soundscapes are designed to generate a mood of the overall space and are useful resources in elevating the narrative of the exhibit (Lukas 2018, p 135). The last mode of communication is that of touch, although not in the physical sense of the word. The sense of touch that is employed in this pavilion is intangible, seen only through mental and moral sensitiveness and awareness. The pavilion's intentions are to make each visitor feel something as they journey through the planet. It does this by attempting to reach the emotional and subconscious level of the viewer creating more memorable experiences. In doing so, visitors

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might have longer-term reactions to the space that follow them long after the initial visit. Similarly, spaces that dramatically force the viewer to contemplate disconcerting issues (like hunger), people are more likely to respond with action.

The Zero Pavilion was also a fundamental stage for the UN's itinerary and the Zero Hunger Challenge. Typically, the UN development system coincides with and reinforces established development frameworks. The pavilion's vast UN presence signifies a deeply embedded partnership between world expos and the mainstream development discourse. However, it seems the pavilion is prompting a suggestive paradigm shift within the UN development structure that is self-scrutinizing and considers more holistic and pluralistic approaches that stem from post-development schools of thought. The pavilion demonstrates this by expressing indifference towards present-day structures of natural capital commodification, excessive consumptive behavior, overreliance on technology, and Western-dominant knowledge. The space encourages new ways of thinking about the human relationship to nature, with each other, and with food. It attempts to provoke the viewer, through bombastic and dramatic ways, so that the exposition theme can reverberate and foster individual reflexivity throughout the entire event. The pavilion frames that many of the development issues we face are global in scope, but the styles and methods to which we deal with these issues must not be limited to a universal approach (Horner 2020, p 430). This is most noticeable in the pavilion's Best Practices area.

There were 18 best practices initiatives chosen to be showcased in this area out of over 700 submitted (FAO, n.d.). The projects were chosen based on their contribution to cooperation and exchange of shared knowledge in five of the Zero Hunger Challenge priority areas. These include sustainable resource management, quality and quantity of agricultural productivity, global markets, rural communities in marginalized areas, and food consumption patterns (Zero Hunger Challenge, n.d.). Serving as benchmarks and models for sustainable development for the world, most of the projects were selected from developing nations. In terms of geographical areas, seven projects were from Africa, six from Asia, three from America, and two from Europe (FAO, n.d.). The best practice projects displayed concepts relating to local knowledge, small-holder farms, and practices, promoting women in the agricultural sector, and deep ecology. Ideas like these hold firm in post-development. Their inclusion and high praise within the largest and most visited pavilion at the expo indicate a shift within the mainstream discourse.

The pavilion indicated a strong need for people to reflect on "how much humankind has produced, the transformation of the natural landscape, and the culture and rituals of food consumption" (Expo 2015 S.P.A., 2015). The pavilion "references a return to the planet's origins and to its unity, free of state borders, prejudice, differences between one people and another" (Expo 2015 S.P.A., 2015). This is somewhat confusing through the lens of development. There seems to be a call for unification and finding a universal solution but at the same time, the pavilion also expressed discourse about celebrating diversity and multiple solutions. This is just one example of the tensions within the Zero Pavilion and how it may be representative of similar tensions within global development as

well. The narratives of the Zero Pavilion represent several post-development ideologies that oppose universalism and reject aspects of Westernization and capitalism. The pavilion acknowledged the inequities of the global food system and defended local and traditional knowledge while advocating for alternatives. The Zero Pavilion could be an example of what alternative development might look like. However, there is debate about whether alternative development is what is necessary or if there should be a complete alternative *to* development. The former is thought of as mainstream development co-opting many of the so-called alternatives and post-development ideas.

For thinkers like Banuri (1990) and Latouche (1993), there is an aversion to the co-option of the two discourses merging. Latouche, for example, thinks alternative development is deceptive, a "siren song" that is more dangerous than "true blue" development (Latouche 1993, p149). Alternative development or co-option means coaxing development into a new direction rather than radically opposing the assumptions that development is premised upon. Some argue that the SDGs, and the inclusion of some of these post-development ideas, are simply greenwashing the conventional growth and development policies (Gomez-Baggethun, 2019, p 71). The Zero Pavilion's inclusion of post-development ideas such as rejecting capitalist modernity and positive recognition of traditional knowledge could be a sign of assimilation. As Latouche warns, by presenting a "friendly exterior," "alternative development" is harder to resist than standard development and it shares many of the pitfalls of standard development (Latouche 1993, p 149). Similarly, Banuri states, 'It is not for the outside expert to insist that the goals which he or she thinks worth pursuing are the ones which should be pursued by all societies' (Banuri 1990, p 96). We cannot be sure what the true intentions are of the UN-backed pavilion and perhaps the overarching goal was to present a wide-ranging view and disagreements within development and the food industry. Whether the presented ideas and rejections against the dominant development paradigm are genuine or if the calls for radical and sustainable change are simply putting on a 'friendly' face to signal itself anew on a global stage. Regardless, Pavilion Zero still demonstrated a significant shift in the ways development is communicated at world expos and seemed to acknowledge the need to abandon growth ideology and recognize the importance of redistributing knowledge and wealth.

(top) Milan Expo Pavilion Zero (2015) Photo by thinkrobot distributed under a CC-BY 2.0 license. Retrieved from:
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https://www.flickr.com/photos/123228516@N08/17307603240/

Sustainability

Sustainability was expressed throughout the Zero Pavilion within the following interconnected domains: environmental, social, and economic. It was a very confrontational pavilion. Environmentally, the pavilion used very dramatic visual and auditory scenery to capture nature and the various landscapes that humans have altered. Zero Pavilion relied on the grandiose and the symbolic to indicate the magnitude and extent of the pavilion's theme and offerings. In one room, there were grand displays of cataclysmic weather events and the ecological effects of climate change. The loud classical music, encircling visuals of landscapes before and after, and periodic signage saying things like 'Man felt the necessity to intervene on the environment, modifying it' and spoke of "our power over the strength of nature", antagonized each visitor (Lukas 2018, p 295). Even the closing Milan report stated that the pavilion was 'an emotional path that surprised the senses through imposing installations' (Expo 2015 S.P.A, 2018). The pavilion expressed the environment through extreme means and in doing so, created awareness amongst visitors of the unexpected consequences of development. There can be value to understanding the accidental penalties that advancement and progress have had on the environment (Ferguson 1994, p 176). For example, anthropologist James Ferguson did a study on the "side effects" of development projects in Lesotho. Many of them had failed due to the project leaders' lack of understanding of the region and the socio-historical practices already in place. In realizing the mistakes from these failed projects, some development actors have begun integrating local knowledge and practices into new management strategies. However, many development actors are still implementing universal projects and policies in many regions where they will not necessarily work and instead create additional problems. Furthermore, the growing environmental crisis casts doubt on the viability and desirability of development interventions. (Matthews 2010, p 7). The pavilion corresponded with Sachs's (1992) "limits to development" awareness campaign and posits the idea of a 'New Commons' in which new, diverse pathways should be created with this awareness in mind (Sachs 1992, p 17). There were also some confusing and ambiguous environmental messages in the space as well. The 'Pangea' piece, a wooden puzzle-like table in the outdoor courtyard of the Zero Pavilion, took inspiration from the once-unified supercontinent. It communicated a return to "the planet's origins and to its unity, free of state borders, prejudice, differences between one people and another" (Expo 2015 S.P.A., 2015). Of course, Pangea existed in a time before humans, so the creator's metaphor of the Earth's crust and the almost constant pre-historic references here are interesting. It suggests somewhat of blanket rejection of mankind altogether while not offering solutions to the concept of sustainability. Instead, these representations indicate that sustainability is impossible if humans are on the planet.

The confrontational nature of the pavilion seemed to depict the fundamental moral flaws within humans and challenged viewers to reconsider their individual place within the environment. The social context of sustainability was expressed in the pavilion through ideas of diversity, interconnectedness, consumption habits, and governance structures. Many of the rooms displayed different ways that humans have obtained their food. Humanity's success was displayed through the differences in our cultures, varied hunting and fishing practices, and the assorted tools

humanity created over time. This suggested how diversity is a crucial tool for adaptation and resilience. However, many of mankind's social failings were depicted as examples of roadblocks to sustainability. Accountability was most prominent in the areas related to consumption. The food waste area with its meters-high piles of garbage and rotting food, was an obvious argument against the Western, developed way of life. For post-development theorists, it is not possible for the whole of humanity to consume or waste in a manner like that of citizens of the "developed" world (Matthews 2010, p 9). The pavilion states the need to address the "paradox of waste" as the signage states in the food waste area. "Paradox" is meant to imply just how contradictory and absurd a situation that the human-nature relationship has become (Lukas 2018, p 229). This is just one example of how the pavilion uses language to provoke the viewer and put rhetorical blame on humans, not only on an individual level but also on a structural level.

The pavilion used very direct language and imagery to challenge but also did so through very muted and almost invisible methods. There was one room that contained nothing but several life-sized animal sculptures. This exhibit space was representative of all the animal species that have had the most influence on the human diet. There was also another clue to be found. They were all painted white. The unanimous paint job was symbolic of a couple of things. The first is that the human diet has become increasingly standardized and universal with only a few dozen animals comprising the majority of the world's intake. The second is that the modern diet has been primarily formed on the assumptions and desires of white people. The animal area with the dominant paint color is in line with many of the post-development critiques of universalism and rejection of Eurocentricity (Matthews, 2010). The political and economic history of the human diet was explored further in the pavilion but in a more recognizable way.

The Food Stock Exchange area explicitly channels post-development thinking and its rejection of capitalism and the development-as-growth paradigm. The room displays a recognizable Wall Street-looking stock market index with various crops replacing company stocks with corresponding prices that change according to global supply and demand. The purely economic mindset implies a reductionist view of existence. According to Sachs, 'it is not the failure of development that is to be feared, but its success' (Sachs 1992, p 3). Sandwiched in-between are tickers displayed in English and Italian texts like "New rules are needed for global governance", "Extreme price volatility is a threat to food security", and "The food sector: reality vs. abstraction" (Lusiardi, 2017). This area of the pavilion acknowledged the inequities of the global food system and addressed the commodification of the planet's natural resources. Overall, the pavilion expressed sustainability through confrontational means meant to influence the viewer's inward emotions.

WELL-BEING

Most expo pavilions tend to relate the theme and subject matter through exhibits that convey messages of hope and progress. The Zero Pavilion sharply breaks from this tradition. Instead, the pavilion offered a very pessimistic and nihilistic vision of the state of the world today (Lukas 2018, p 291). Well-being incorporates more than individual happiness and health but also the wellness of the environment and social systems in place (Maccagnan 2019, p 220-221). The confrontational method that this pavilion employs shows how much of modern life has been the result of historical and socially constructed habits and behaviors that have impacted our society. The nihilistic design holds a mirror to society and questions whether this is what progress was meant to be. Similar to the post-development contribution to contemporary development studies, the pavilion generated compelling and controversial discussion about global challenges and solutions concerning food.

The theatrical maze of rooms certainly gave a unique story of the Earth, as well as the evolution of human's relationship with its food. But it also left many visitors with a somewhat depressing sense of the future. For professor Mike Hulme, this kind of alarmist messaging and call to action can backfire, leaving people feeling helpless. It can also accelerate the risks we are trying to ward off (Hulme 2008, p 11). This type of tragedy-focused way of

communicating through multi-sensory spaces is known as 'dark theming' (Lukas 2018, p 13). A relatively new form of design, dark theming takes its foundations from dark tourism and post-modernist trends and uses avant-garde and aesthetic experimentation to explore the taboo and extreme forms of politics and culture (Lukas 2018, p 147). The Zero Pavilion uses these features of dark theming to push visitors to consider and reflect on difficult topics in relation to environmental, political, and social justice (Lukas 2018, p 234). Contrary to Hulme's sentiment about exaggerated and dramatic communication, Lukas argues that nihilistic design allows for the seriousness of issues to be stressed and sets the visitor up for greater reflexivity and connections to be made long after the initial visit (Lukas 2018, p 296). Indeed, the actual darkness throughout the interior of the pavilion is quite foreboding and summons the viewer to ponder these dark and challenging topics. The antagonizing text within the space confronts the visitor to explore their own experiences of development and sustainability. It also challenges the participant to envision new ways of being. Do we wish to continue living amongst heaps of rubbish and food waste while simultaneously watching the world's supply of natural resources be commodified? Are there other pathways toward food security and sustainability? The Zero Pavilion echoes the anxiety, skepticism, and doubt that many people feel about modern problems. Unlike the traditional expo culture of glitzy, extravagant futures dominated by consumerism and technology, the introductory pavilion space attempts to use these experiences as fuel for the imagination and potential for the future.

Throughout the pavilion, people are challenged in two senses. One is to reflect on the viewer's own condition. The theatrical nature of the pavilion is meant to dip into the "inner world" of the viewer. By invoking people's thoughts, emotions, identities, and beliefs to have a powerful and potentially transformative change towards addressing sustainability issues (Ives 2020, p 208). While the pavilion does repeat concepts of biodiversity loss, climate change, and food security threats, it also marks flawed human characteristics of greed, apathy, and selfishness as partly responsible for these global challenges (Ives 2020, p 208). The other challenge for viewers is to reflect on the systems and structures that have been put in place over time that have contributed to systems of oppression- that of the political and of social justice (Lukas 2018, p 233). As we are reminded, visitors to the expo are not just the public looking to be entertained but also to policymakers, government officials, international business suppliers and investors, and local communities (Stein 2016, p 33). The immersion and exhibition techniques used in the Zero Pavilion utilized theories about sensory-informed policymaking and proposed philosophical ideas about motivation and values. Sensory-informed policymaking is a relatively new idea that aims to connect sustainable development decision making with multisensory embodied reality of human existence. German sociologist, Harald Heinrichs, states that the sensorial aspects of human life have largely been ignored by sustainable development thinkers thus far despite advocating for the welfare of present and future generations (Heinrichs 2020, p 792). The immersive and participatory nature of the pavilion along with its dramatic and confrontational approach provoke people to reflect on and potentially expand policy options that had been developed in established routines within the conventional political–administrative system, particularly about well-being. The pavilion also proposes new visions of human

values and motivation by expressing emotional and inner worldviews that relate to sustainability challenges. The most obvious of this is with the waste and consumption areas of the pavilion, where greed and selfishness have driven many environmental problems (Ives 2020, p 211). The pavilion stresses a need to be mindful of these underlying values and how they can be related to the conventional idea of progress and modernity. Symbolizing that "empathy and awareness cultivated through experience and contemplation can be translated into action" (Ives 2020, p 212). By participating in the visual arts within Zero Pavilion, the visitor can potentially reflect on and expand their views about decision-making, individually as well as politically (Heinrichs 2020, p 797). Lukas argues that existentialist designs and content may have the ability to stress that each guest approach the spaces at hand (and the many other spaces and realities through which each guest travels) with much more awareness, connection, reflexivity, and, ultimately, consider his or her complicity in the most pressing issues that are impacting the world (Lukas 2018, p 296).

FINAL REMARKS

Zero Pavilion, with its plethora of rooms and themes, strives to link a wide range of messages to a broad range of actors. The pavilion's main aim is not necessarily "explaining", but rather making visitors feel involved and empathically engage their attention (Ives 2020, p 209). With many of the Sustainable Development Goals being data-driven and established in routine bureaucracy, the supplemental inclusion of other forms of expression can lead to more nuanced and informed insights on development goals and how to achieve them. The Zero Pavilion signals the need to take the world expo platform as a serious stage in which to consider the most pressing global development dilemmas. From here I will go from discussing one of the largest pavilions at the Milan expo to one of the smallest. These two pavilions at the Milan expo stress similar values that align with the greater good of society but could not be greater contrasts in terms of structural design, representation of the theme, and conception.

SLOW FOOD PAVILION

(top) Herzog & de Meuron Slow Food Pavilion (2015) Photo by Pygmalion Karatzas Retrieved from: https://divisare.com/projects/343704-herzog-de-meuron-pygmalion-karatzas-slow-food-pavilion

Slow Food is just one of the many global grassroots movements that are involved in developing alternatives to the neoliberal, hegemonic, pro-globalization forces in their societies. Another similar movement, La Via Campesina, focuses on issues of food sovereignty and advocates for adequately provisioned, culturally and ecologically appropriate nutrients to be distributed to people through a food system that is not controlled by powerful corporations (Kothari et al 2019, p 185). It is unfortunate that La Via Campesina was not included in the Milan expo, as well as many other agriculturally based movements that promote localized, inclusive, and alternative solutions to global food challenges. However, the Italian-born, Slow movement was chosen to participate in the international discussion and is considered one of the many examples of a transformative initiative in *Pluriverse, Post-Development Dictionary* (Kothari et al 2019, p 305). Slow Food was founded by Italian activist Carlo Petrini in 1986. It first began as a demonstration against the global fast-food chain, McDonalds, being built near the culturally important Spanish Steps in Rome (Slow Food, 2019). The campaign quickly sparked a broader and cross-disciplinary Slow Movement, which 'advocates a cultural shift toward slowing down life's pace' in a variety of areas, including food (Kothari et al 2019, p 307). Today, the Slow Food movement has a presence in over 160 countries with a total network of ~100,000 members in 1,500 chapters (Kothari et al 2019, p 306). The Slow Food pavilion was built by world-renowned Swiss-based architectural firm, Herzog & de Meuron and of course, the Slow Food movement.

To understand the pavilion's journey at the expo, you must first understand the origins of the expo itself. Regarded as an alternative to development, "the intellectual approach and radical philosophy of Slow Food provided the inspiration for the expo Milano 2015 masterplan" (Valenzuela, 2015). In fact, Herzog & de Meuron was part of the original expo master planner along with Milanese architect and urban planner, Stefano Boeri, former Olympic architects, Englishman Ricky Burdett, and Spanish Joan Busquets, and "cradle-to-cradle" American designer William McDonough (Wainwright, 2015). The expo masterplan committee had several innovative thinkers when it came to sustainable design and leaving a legacy based on substance. The original masterplan, which was eventually scrapped, was a radical design intended to leave a lasting, sustainable legacy for the Northern Lombardy region. Wanting to avoid the 'usual vanity fair of competing for architectural innovations' and to confront the agricultural theme head-on, Herzog & de Meuron and other planners envisioned the expo site, an "overgrown, formerly agricultural land" approximately 45 minutes away from Milan's city center, as "a productive landscape that could function as an expo site but also as an example of successful development" (Wainwright, 2015). "Embodying the agricultural theme, half of each pavilion plot would be given over to a cultivated garden, where the countries would grow a food of their nation and then bring their produce to a kilometer-long table running down the central boulevard – "like a global last supper", says Herzog (Herzog & de Meuron, 2014). The plan also proposed an ambitious 'canal city' to "revive Milan's network of waterways, opening up canals to irrigate surrounding farms" (Wainwright, 2015). "We were convinced that our master plan would be a good platform for the radical reinvention of what a world exhibition could be in the 21st century" (Herzog & de Meuron, 2014). However, after mishandling the purchase of the site, time running out, and the budget depleting, major changes to the initial plan had to be reconsidered. A major hiccup was the water pressure of the waterways would not be strong enough to reach the fields, so in a hasty decision, the entire site was covered with a concrete foundation (Wainwright, 2015). "They should have used a site they already owned that needed regeneration. "such a site would have necessitated the intelligence of adaptive reuse and careful planning." says Emanuele Braga, co-founder of Macao, a politicized arts group that organized anti-Expo campaigns. (Wainwright, 2015).

"As time went on, however, it became increasingly clear that this light-touch plan was too radical for the international exposition movement and its attendant entourage of sponsors to adopt" (Frearson, 2015). "We understood that the organizers would not undertake the necessary steps to convince the participating nations to give up on their conventional indulging in self-contemplation instead of focusing on their specific contribution to agriculture and food production" (Herzog & de Meuron, 2014). The firm, along with Boeri, abandoned the project completely in 2011. It was not until 2014 when Slow Food founder Petrini invited Herzog & de Meuron to design the Slow Food pavilion that the architects made their return to the Milan expo (Herzog & de Meuron, 2014). "Petrini has, since the beginning, been one of the most striking and interesting figures involved in the early planning and had therefore been one of the reasons for our own involvement. His radical intellectual and philosophical approach to the questions of biodiversity and food production was the main inspiration for our masterplan." (Valenzuela, 2015).

Herzog and Petrini saw it as an opportunity to show what the expo could have been under his direction (Frearson, 2015).

The pavilion was located at the Eastern end of the expo's central boulevard. The site was thought to have a very strategic spot for Slow Food, one that would be positioned well to get a lot of traffic but instead, it was one of the farthest and quietest areas at the expo. The pavilion consisted of three simple, long, and narrow wooden structures, inspired by the traditional farmhouses or "cascinas" of Italy's historic Lombardy region (Valenzuela, 2015). Situated in a triangular formation with large planting boxes, each of which contained rows of regional vegetables and herbs, the pavilion created an "atmosphere of refectory and market." (Valenzuela, 2015). The individual structures each had a different purpose. The main building contained an exhibition inviting visitors to learn about different foods, entitled "Discover Biodiversity". The second farmhouse contained a Slow Tasting counter in which visitors were able to taste a variety of Italian wine and cheeses. The third was an open space for talks and seminars. "It is a place of meeting and exchange, a place to organize, debate, present ideas and techniques, and for entertainment."

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(top) Slow Food Pavilion by Herzog & de Meuron (2015) Photo by Expo Milan 2015 distributed under a CC-BY 2.0 license. Retrieved from: \underline{\text{https://www.metalocus.es/en/news/slow-food-pavilion-herzog-and-de-meuron}}

PLURALITY AND THE TRANSFORMATION OF WORLD EXPOSITIONS

The ideas presented in Herzog & de Meuron's initial expo masterplan are important in relation to the Slow Food pavilion. The proposal was a radical approach, which tried to re-invent the concept of a World Exhibition

(Wainwright, 2015). Seeing plurality in a very different way than the other pavilion cases. Rather than celebrate diversity through architecture, the firm wanted to completely abandon the idea of individually designed architectural pavilions altogether. Jacques Herzog states, "We felt this expo would be exactly the right place to start focusing more on content, because it simply seems embarrassing to address this very important topic and at the same time build enormous, dramatically curved pavilions with facades in wavy plastic or dramatic waterfalls or whatever" (Dienst, 2015). Rather, the plan wanted each participant to showcase their national agricultural landscapes and gardens in simple pavilion structures. Such a concept would allow for countries to participate equally while still maintaining the focus on the expo's theme. Traditionally expo participants are responsible for the funding, design, construction, implementation, and demolition of their pavilion and are subjected to varying degrees of size, quality, and creativity in design. This reinforces the unevenness of the social, economic, and geographical inequalities among nations (Paling 2010, p 122-123). Contrastingly, the Herzog plan envisioned a literal uniting of all participating nations, and would become a huge, planetary garden with a long table symbolizing a planetary table for all participants, inspired by Leonardo DaVinci's ''Last Supper' (Herzog & de Meuron, 2014). A re-invented World Exposition proposed in the original master plan concept echoes many of the same post-development theories and principles. As Wolfgang Sachs suggests, mainstream development has "created a homogeneous identity for countries and stripped them of their own diverse characteristics." He also writes that on one hand, universalism has gained the upper-hand but on the other, place-bound aspirations have affirmed themselves repeatedly (Sachs 2009, pp 122). The idea of a planetary table seems like a very radical vision that adheres to post-development thoughts of plurality, where place-bound aspirations could be showcased at the Expo in new ways.

The idea of materializing a 'unity in diversity' scheme at the World Expo could enable connections to be formed not simply based on solidarity, but on common interests, common demands, and mobilization (Kothari et al 2019, p 261). The idea of the commons was an important source of support for this transformation. A physical area where the community could support itself, a historical space with which it can identify, and an institutional space that allows it to formulate the new relations, facilitating people's ability to support each other, extending the possibilities of conviviality. (Kothari et al 2019, p 137) "There is an amazing variety of global themes that should be tackled and brought to the fore — the conventional format, with national pavilions competing for design awards, cannot deliver that!" Herzog told *Uncube* magazine (Dienst, 2015). As Sachs (2009) reminds us, regeneration calls for actualizing the image of a good society which is present in each culture (Sachs 2009, p 124).

We know that the original expo plan did not come to fruition, but the Slow Food pavilion design assumes these ideas. The Slow philosophy is the practice of resisting the kind of thought that is incapable of collecting itself, pausing, considering, and contemplating. (Kothari et al 2019, p 307). The pavilion placed its entire focus on the content with its simplistic design, not only saving space but also energy, time, water, and infrastructure. Each of the simple structures of the pavilion offered shelter but was still open to the elements. This is an example of porosity in

architecture. It blurs and redefines the boundaries between the public and private space. In this respect, the public sphere is expanded and the entire pavilion being on ground level allows for equal visibility and accessibility. The design is also a homage to the traditional Lombardy farmhouse, signaling a place-based initiative. Post-development theorists support locally driven solutions rather than global ones because most community needs are locally based (Matthews 2010, p 11). They are suspicious of big, abstract, projects aimed at solving a single issue because diverse societies have different ways of coping with the problems they have and not all societies may have the same issue (Escobar 1995, p 222). The Slow Food movement recognizes this and advocates for such place-based diversity. Because the movement and pavilion are set in Italy, the pavilion displayed regional Italian vegetables, herbs, cheeses, wine, and agricultural practices pertinent to that region. It is hoped that these locally based, locally inspired groups will be better able to play a role which is sensitive to difference, and which is based on the needs of particular groups of people (Matthews 2010, p 10). Similarly, Herzog mentions the value of place-based initiatives, "We would much rather know how countries like Kenya, Mexico, China, Laos, or Germany are dealing with the question of how to feed their people." (Dienst, 2015).

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SUSTAINABILITY

Sustainability is expressed in many forms at the Slow Food Pavilion. One of these forms is the environmentally friendly design of the space. The "shacks'' as Herzog & de Meuron calls them, were intentionally meant to be archaic (Valenzuela, 2015). The Slow Food pavilion was made from materials that were local, cheap, and easy to assemble. "It's a surprisingly austere, low-tech, breezy monument to agricultural traditions," said Richard McCarthy, executive director of Slow Food USA. (Dienst, 2015). The absence of any modern technology within the pavilion characterizes that we need not be dependent on it to survive. But rather, more time spent without it might engage us in more productive ways. The plan for the pavilion post-expo is to disassemble the structures and build garden sheds for elementary schools across Italy for environmental education (Herzog & de Meuron, 2014). The "light, simple, durable structures have a low environmental impact, and allow them to harmonize perfectly with their content" (Lemaire, n.d.). Like the original master plan they helped develop, Herzog & de Meuron concentrated their attention more on the substance of the theme than on any formal architectural exercise (Herzog & de Meuron, 2014). The Herzog & de Meuron architecture firm is prolific, and prestigious. Their work is celebrated worldwide for their slick, modern designs. For the architects to create three sheds for an event as visited and written about as the world expo sends a radical message about sustainability and mega-event architecture. The world is confronted by the impacts of climate change and the business-as-usual habits of destruction more and more each year. Escobar (2018) sees this as an opportunity to approach how design can help rebuild societies affected by the" design disaster that development is" (Escobar 2018, p 6-7). The Herzog master plan and the Slow Food pavilion emulates these same ideas and proposes an alternative.

The pavilion's structures are situated in a triangular shape, symbolic of the original recycling symbol used around the world. The shape represents a closed loop as opposed to a linear design. The linear model is a dominant symbol in the capitalist system with growth always having to increase to be considered successful. A circular economic model is becoming more and more popular as we see that continued growth is unsustainable. A circular type of system would generate efficiency, less waste, and extend the life of most products (Kothari et al 2019, p 28-29). In architecture, there is also a similar concept gaining traction in the sustainability sphere, called cradle-to-cradle or C2C. The concept, created by fellow master planner William McDonough, pushes for architects and designers to build regenerative products that utilize more biomimicry approaches in their work (McDonough & Braungart, 2010). Biomimicry entails imitating the natural processes, products, and strategies of other living species for human purposes. The objective of biomimicry is to create new ways of living and solve the ultimate design challenge – sustainability and living in harmony with all life on Earth. C2C and biomimicry approaches serve as a framework for design that creates systems of efficiency and comes closer to zero waste. These practices aim at solving the sustainability issue of design challenges but also to produce a beneficial aspect as well. To do this, architects and designers should be mindful of the materials used in their work by choosing renewable resources, natural materials that can later be reused or restored in some way. The Slow Food pavilion expresses these ideas in its spatial design

and materiality as a metaphor to promote ideas like a circular economy, increased recycling, making less waste, and simulating a self-organizing ecosystem. (Kothari et al 2019, p 28).

One of the highlights in the pavilion's exhibition space is a large Buddha sculpture which sits at one of the exhibition tables. The Buddha character was made to personify the famous 19th-century philosopher Ludwig Feuerbach's expression, "You are what you eat". Made up of thousands of kernels of corn, the figure takes the expression a step further by playing on popular author Michael Pollan's recent saying, "If you are what you eat… what you are is corn." (Pollan, 2006). Expo visitors were tasked with guessing how many kernels made up the figure and to use their sense of smell to pick out different varieties of corn (Frearson, 2015). The corn is meant to represent how industrialized food has become and that it is now the world's most dominant crop. It also tells the history of corn and how the corn we eat today is vastly different than the corn cultivated millennia ago. Additionally, the bloated human statue speaks to the excessive consumption habits brought on by the industrialized food industry which leads to obesity, type 2 diabetes, and other chronic health problems. The corn Buddha is the pavilion's most gimmicky feature and perhaps a nod to past expo's use of spectacle and structures "that would only distract visitors from the real purpose of the event" (Frearson, 2015).

The Slow movement has had an international impact with respect to the broader discourses of consumption as well as the sustainability of foodways and food related biodiversity (Hall 2012, p 102-103). Overall, the main objective of the pavilion is to demonstrate the importance of "understanding where different foods come from, and the effect they have on the environment" (Frearson, 2015). To do this, the pavilion encourages agricultural and food biodiversity most of all. "By starting from biodiversity, we can imagine a different model of development" (Nano, 2015). Biodiversity encompasses everything from small bacteria to plant and animal varieties to entire ecosystems. In 2005 the UN Millennium Ecosystem Assessment stated that economic development has resulted in a substantial and largely irreversible loss in the diversity of life on Earth. (Millennium Ecosystem Assessment 2005, p 1). In short, the world's diet has become increasingly less diverse with 60% of the world's main food supply consisting of just three crops, wheat, rice, and corn. The thousands of varieties of these crops are quickly diminishing due to large, multinational corporations and consolidated cultivation methods. The amalgamation of crops has led people away from a "rich tapestry of foods that strengthen both the earth's ecosystems and enrich our bodies" (Lee, 2019). To demonstrate these ideas around biodiversity and its importance, the pavilion's main exhibition space held a large hourglass in the center of the room that represented the accelerated rate with which biodiversity is being lost (Nano, 2015). Next to it was an accompanying series of photos that displayed the thousands of varieties of fruits, vegetables, legumes, cattle, goats, sheep, and other animal breeds that have already become extinct as well as many that are now at risk (Lemaire, n.d.).

The biodiversity message was explicitly expressed through its multimodal arenas, via exhibition visuals and text, small tactile games, and fragrant garden, but its most notable and perhaps memorable was the Slow Tasting section

where expo visitors could taste biodiversity. The expo's theme surrounding food enabled the sense of taste to be expressed throughout the event, a sense often neglected in mega events. Slow Food incorporates what they call "taste education" in many of their projects worldwide. It works by formulating new connections between the consumers and producers through tasting the subtle and noticeable differences in varieties of the same foods. The theory behind taste education is that when consumers are introduced to new flavors and new food, they are likely to be encouraged to find out who the producers are of that food and the methods they use, fostering new relationships with small-scale farmers and agricultural practices (Slow Food, 2015). During the expo's sixth month run, Slow Food Pavilion was able to offer a total of 84 different types of cheese to visitors, mostly from Italian regions (Lemaire, n.d.). Visitors could experience the biodiversity of cheese and learn about the different methods that were used to create it. Food experiences are an intrinsic, essential component of the human experience (Bell 2008, p 43). Taste is thought to be at the intersection between the senses, science, and sustainability (Lee, 2019). The Slow Tasting section introduced people to the concept of sustainability through taste. Incorporating new varieties of foods into a daily diet supports ecosystem diversity in the food system while also supporting broader communities worldwide (Lee, 2019). This section of the pavilion communicates a common approach for alternative development activists. Seeking to bring attention back to the local food and culture "in the face of the growing homogenization of cuisine and culture through globalization" (Bender 2012, p 8). For Slow Food and post-development thinkers, sustainability can be cultivated by addressing the weakened biodiversity in our diets and by challenging the large multinational corporations that produce monocultures of corn, soy, and wheat. (Anderson 2019, p 33). The benefits of a biodiverse diet can support a healthier planet, promote small-scale farmers and agro-ecological farming practices, and can also be more flavorful and more nutritious which can lead to better health and well-being outcomes.

WELL-BEING

The lifestyle that the Slow Food movement advocates has strong affiliations with well-being. Food is a basic human need, but it need not be merely a means for surviving but can also provide happiness, health, and comfort. Slow Food activists encourage food to be enjoyed, savored, and eaten with others. Besides food, clothing, and shelter, basic human needs also include safety, love and belonging, dignity, and fulfillment (Maslow, 1943). For Norwegian philosopher Guttorm Fiesta, the slowing down the pace of life encourages these supplemental and often neglected well-being characteristics. He writes,

> *"The rate of change increases. If you want to hang on you better speed up. That is the message of today. It could, however, be useful to remind everyone that our basic needs never change. The need to be seen and appreciated! It is the need to belong. The need for nearness and care, and for a little love! This is given only through slowness in human relations. In order to master changes, we have to recover slowness, reflection and togetherness. There we will find real renewal." (Botta 2016, p 5).*

"The opportunities for a contemplative relation with others and the natural world are decreasing in an ever-accelerating world" (Kothari et al 2019, p 305). Speed is thus seen as a requirement in a modern society with a relentless demand for action and decisions to be made quickly and without mistakes. Slow Food and the Slow

movement are the opposite. It privileges quality over quantity. Slowness over swiftness. The pavilion design exemplifies this in its simplicity. It encourages visitors to slow down in their expo experience. It is a known characteristic that world expos can be an overwhelming experience. Most visitors rush from pavilion to pavilion to see everything they can in a day or two to get their money's worth. Because the pavilion was positioned on the farthest end of the Expo, it was also the most tranquil. "The pavilion was an oasis of peace in the middle of the flurry" (McCarthy, 2015). However, this aspect might have also backfired. Meaning that many of the messages the pavilion wanted to convey most likely went unnoticed by most expo goers who quickly passed by Slow Food due to its unimpressive design.

The world's first exposition about food was missing a major ingredient which did not go unnoticed by the Slow Food pavilion. In a global discussion about food systems and who will feed the world, there was a severe lack of representation of farmers. Slow Food was one of the few pavilions that spoke about small-scale food producers and spoke out against expo organizers. Former USA Slow Food director Richard McCarthy stated in 2015, "Who will feed the world? McDonalds? The other conglomerates that occupy this former farmland. Apparently, it is not farmers – they are nowhere to be seen" (McCarthy, 2015). Post development theories point out that small-scale farmers still generate most of the world's agriculture production and they do so without damaging the environment (Kothari et al 2019 p 7-8: p 87). Mainstream development initiatives such as the Green Revolution put small scale farmers into ecologically harmful practices by introducing pesticides and chemicals that have since destroyed much of the soil in favor of higher yields. Development critic, Vandana Shiva, has described the Green Revolution as an example of maldevelopment, putting many farmers into poverty by accumulating debt and abolishing successes of communal food sovereignty made by many women farmers. (Kothari et al 2019, p 165). The recurrent stories of injustice against farmers being exploited and communities being dissolved under the banner of mass agriculture are topics generally missing from the Milan expo. Italian activist Giosuè De Salvo said the expo failed "to promote the small food producers, the peasants, the fishermen; those who are the first investors in agriculture. They're the principal actors in the work, but paradoxically they're also those who suffer first from hunger and malnutrition," (Scammell, 2015) Slow Food pavilion pointed out a glaring contradiction in the expo, which is that many of the ways of being and feeding communities were not fully represented or considered at the expo. Slow Food was the only pavilion of its kind while there were over twenty-four commercial pavilions. In a statement, Slow Food argued, "we continue to believe that to feed the planet, it is essential that we consider social and economic sustainability, in terms of access to good, clean food that is fair for all. We also continue to believe that multinationals cannot in any way represent solutions as to how to nourish the planet." (Brincat, 2015). Slow Food pavilion's commitment to small-scale farmers communicates a message about communal well-being. Slow Food's main principles are good, clean, and fair. Fairness, in food production, means "respect for workers and their know-how, for rural life, for adequate wages, and for recognition of small farmers' value whose position in society has always been neglected" (Agrillo 2015, p 3). Community and communal well-being are concepts being renewed in many post-development movements (Escobar

2018, p 5). Similarly, communal well-being is also being recognized in the realm of architecture in the form of autonomous design (Escobar 2018, p 139-140).

Autonomous design, according to Escobar, is the recognition of design, in this case architecture, to "support subaltern struggles for autonomy by opening up design to rationalities and practices attuned to the relational dimension of life, particularly those present among groups engaged in territorial struggles against extractive globalization" (Escobar 2018, p 143). Along with the shared philosophies between Herzog & de Meuron and Slow Food, the pavilion's material, design, and intentions resonate with emerging development alternatives about good living and autonomy. It involves the defense of some practices, the abandonment or transformation of others, and the invention of new ones (Escobar 2018, p 143). The idea of autonomous design, for Escobar, is not to change the world we are in but to create new worlds (Escobar 2018, p 224). The Slow Food pavilion could be thought of as an autonomous design project for its defense of local regionality and encouragement of finding the advantages of other regions. The pavilion itself is a space that was created to strengthen the connection between the communal and the Earth and the interspersed relationality between them (Escobar 2018, p 253). Escobar also states that autonomous design spaces are often created for a community's defense of their own territories and life worlds being increasingly challenged by globalized and capitalist occupation (Escobar 2018, p 227).

Indeed, the ongoing feud between Slow Food and McDonalds was re-ignited at the Milan expo. The fast-food chain attempted to use the same rhetorical tactics to refute Slow Food's criticism of participating in the event by stating in a press release, 'We wonder why those who proclaim the importance of biodiversity do not agree on the idea of diversity of supply, and especially do not demonstrate respect for people's freedom and ability to choose...' (Parasecoli, 2017). McDonalds use of diversity and autonomy here is disturbing because it misconstrues the company's omnipresent place in society whose foundation is based on addictive chemistry and low prices exploit the poor (Schlosser, 2012). Individual autonomy is an idea that is generally understood to refer to the capacity to be one's own person, to live one's life according to reasons and motives that are taken as one's own and not the product of manipulative or distorting external forces. (Christman, 2020). While Slow Food follows a communal thinking and practice, individual autonomy is still important. Similar to having biodiverse flavors in the same family of cheeses and wines, there are many benefits to having diverse individuals who can share ideas and foster community success through their differences. Many post-development theorists like Escobar and Esteva, believe that there is an even greater struggle for this type of autonomy because of the dominant, Western, capitalist paradigm (Matthews 2010, p 7). Homogenization and globalization are restricting people's ability to choose freely because other options are being depleted. People's consumption has changed due to the standardization of food and the unrestrained power of the food industry multinationals and industrial agriculture (Hall 2012, p 103). So, for McDonalds to assign individual autonomy as the basis for the company's success is miscalculated and manipulative. And while there was plenty of outrage at McDonalds and Coca-Cola being represented at an expo about feeding the planet, the truth of

the matter is that these companies have a large presence in the global food system. Fast-food and slow food are both actors on the same stage and both had a platform at the world expo in Milan.

FINAL REMARKS

Overall, the pavilion was not popular among Milan expo visitors due to the mundane and commonplace architecture. Its modest nature made the pavilion relatively unremarkable at first glance. Although the area was peaceful, the absence of visitors meant that the content of the pavilion and the Slow Food movement was not able to make observable legacy impacts to those interested in the global challenges of food security and sustainability. However, based on the protests leading up to the event and the media coverage of the scandals and contradictions uncovered at the expo, it seems as though Slow Food presence at the expo did make an impact, at least for those in the Milan region. Slow Food presented a statement following the expo stating "From a Slow Food perspective, we must be excited that food was center stage. And while our pavilion may not have the glitz of Dubai or South Korea, we are there. We are present to offer a counterweight to the myriad of views presented by the dominant paradigm. Of course, being there is not enough" (McCarthy, 2015). Indeed, had Herzog & de Meuron's original master plan been executed at the Milan expo in 2015 the way it had been radically imagined, then perhaps the critical content in the expo's theme could have been transpired in a new kind of "Last Supper" that represented a renewed planetary table for all participants. The Milan expo could have fostered a convivial reconstruction and promoted a pluriverse of partially connected worlds in which all worlds strive for justice and craft autonomous relational ways of being, while respecting the ability of other worlds to do the same (Escobar 2018, p 145). Along the same lines, the planetary table would still have to be held on the same surface as everyone else, which complicates and creates tension about the limitations of diversity. Perhaps the goal for Herzog & de Meuron's master plan was not striving for unity but advocating for departure from the conventional ideas around World Expo's purpose. Nonetheless, it was the Slow Food pavilion and the philosophy behind it that illustrated some of the more unique dialogue in areas such as agricultural policy, food security and nutrition, rural development, sustainability, territorial governance, and well-being.

4. CONCLUSION

Development in its most fundamental form has come to mean the making of a good life for everyone (Peet & Hartwick 2009, p 1). However, the complex realities of contemporary development, and its diverse interpretations and approaches have made it difficult to reach the variable objectives of what makes a life good. The inconsistencies

and gaps within global development have authorized new possibilities of approaching development theory through the arts. Art addresses current debates by challenging assumptions about society and lifestyles.

The purpose of this thesis was to explore the role of art, specifically immersive art, in catalyzing these global development dilemmas. The study focused on how alternative spatial, political, cultural, social spaces are used to examine and experiment with the complex realities of development. By analyzing several world expo pavilions of the last twenty years, this thesis has shown how these immersive art and multimodal spaces are in dialogue with contemporary development dilemmas regarding diversity, well-being, and sustainability. Immersive spaces tend to place high value on experience, with information being communicated through various means, sometimes at the subconscious level. The research conducted in this thesis attempted to understand the influences behind these specially built environments. With each space, there are cultural, political, historical, aesthetic, existential, and design contexts driving their creation.

Each pavilion had its own distinct plan, with its own rationale, particular focus area, and historical context of the time. However, the four cases studied still shared many common elements. All pavilions approached the idea of sustainability by addressing the complex relationship humans have with the natural world. There were pavilions aimed at restoring and renewing the historical symbiosis of living with nature in a harmonious way (Earth Tower and Slow Food). Other pavilions like the Seed Cathedral and Zero Pavilion took a more critical approach to the human-nature relationship by envisioning darker futures if reciprocal and sustainable arrangements are not found. Another common element that all pavilions shared were expressions of diversity. A prominent theme among all the pavilions was the idea of biodiversity. Each pavilion made the case for safeguarding natural biodiversity as a fundamental ingredient for sustainability and well-being. Additionally, as structures built upon a 'global' setting, each pavilion demonstrated support for cultural diversity and differences in a positive and optimistic manner. The Earth Tower represented this through its kaleidoscope metaphor, the Seed Cathedral through its bizarre and contrasting design features, the Zero pavilion through the memory archive, and Slow Food through regional and place-based lifestyles and the idea of a planetary table. All four case studies used multimodal sensory elements to present new versions of our world and exhibit society in ways that are likely, alarming, and promising.

World Expo pavilions, shown by this study, have a two-fold ability for communicating global development dilemmas. The architectural and immersive spaces are created in built form but also serve as models, simulations, and theoretical argumentation, using their creative and design capacity to convey alternative visions for the future and to critically examine the past and present perspectives. Like the debates situated within development studies, the pavilions were not constructed with universal visions. For example, the Zero Pavilion seemed to reiterate a multifaceted view of society but there exist some tensions within the overall communication. The pavilion presented rather conventional development narratives which conflate several distinct value systems into a seemingly neutral discourse, creating the illusion that the narrative can be universally applicable, rather than acknowledge cultural

specificity of the development discourse (Tandberg 2012, p. 5). The Slow Food pavilion on the other hand, used their platform to engage the public with an alternative concept of how a viable planet and a fairer society might be practiced, rather than offering a vague, all-encompassing vision. Seed Cathedral used its design as a metaphor of science's dominance over nature as well as the prioritization of modernity to conventional development ideas. Earth Tower signaled a rekindling of the less superficial values of prosperity such as respect for diversity, community, and movements towards harmony.

While the pavilions shared similarities in their content and approach, there were stark differences and tensions among them. I approached the four cases with the overarching question: What role does immersive art play in catalyzing development dilemmas and in what ways can it create alternative spatial, political, cultural, social spaces in which to examine and experiment with the complex realities of development? This was a broad question that raised many other questions during my investigation that could be explored further in future studies. How do participants (in the field) interpret their experiences within the pavilions? What is the relationship between the different readings by individual participants? What kinds of elements and immersive processes lend to the most memorable meaning-making experiences to understanding issues and finding solutions of the world? In what ways does the experience transfer into other areas, such as in the professional sphere or daily living? In this thesis I want to pose these questions and encourage further exploration of the flexibility and creativity within art-based research and global development in the search for meaningful and practical applications to a real-life context.

The variety in pavilions and the multiple interpretations of them limit the generalizability of the findings, however, this approach provides new insight into the ways in which expo pavilions, immersive art spaces, and art in general are in dialogue with plurality of ideas concerning global development, both in theory and in practice. As development studies continue to accept and incorporate more multidimensional understandings of the human condition and the surrounding environments, there are unique and exciting prospects of the ability for immersive art to examine and experiment with the complex realities of development. The arts are a demonstration to human creativity and resilience during times of crisis and uncertainty. To adapt to a rapidly changing world, creative solutions are needed to scale wide-ranging problems such as sustainability. Despite internal debates of theoretical envisioning and application of development, there is an urgent need to cultivate strategies that can deal with dynamically changing processes and open new possibilities for communication between academic, scientific, and artistic modes of thinking and creation. The problems that the development field has been trying to solve over many years require new forms of understanding.

Development's inconsistent success record is because human beings are complex creatures. We come from a pluriverse of different backgrounds, lifestyles, geographic regions, and each of us have multiple senses in which we interact and understand the world around us. The immersive arts appeal to multidimensional responses from creator

and viewer while also engaging the whole human being. Multimodal arts-based approaches to research global development can help uncover, manage, and contribute new understandings and experiences that cannot be fully accessed through conventional fieldwork. Society is at a critical point. There have been ideologies and philosophies that have driven current ways of thinking about the environment, truth, knowledge, justice, values, and quality of life. This thesis has offered a detailed study of alternative domains that suggest a potentially powerful, multifaceted role for arts-based research in contemporary global development. First, the pavilion data indicate that immersive, multimodal art space can provide an intermediary space as a facilitating tool for exploring and experimenting with global development theories and issues such as sustainability and well-being. Second, this study has shown how arts-based research and multimodal analysis can be useful for revealing new kinds of latent information and for supporting the development of alternative analytical approaches and creativity that can support effective development outcomes. I hope that this thesis has offered some intrigue into further research into the role of arts-based research, as well as inspiring global development stakeholders to consider alternative cultural approaches when searching for multidimensional solutions to critical global issues.

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